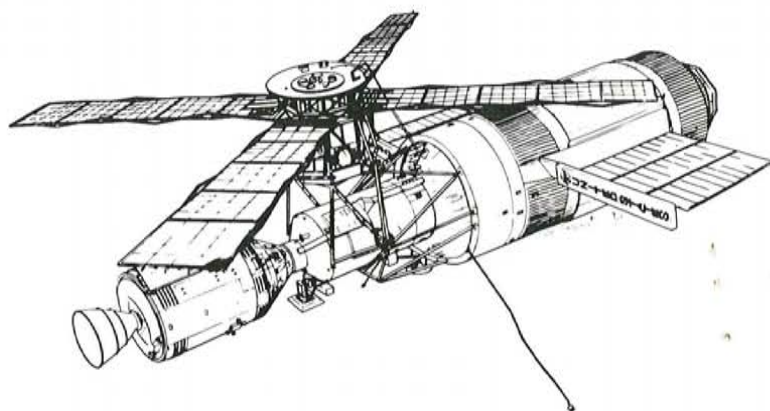


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ORIGINAL CONTAINS
COLOR ILLUSTRATIONS

SKYLAB EARTH RESOURCES DATA CATALOG



National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas

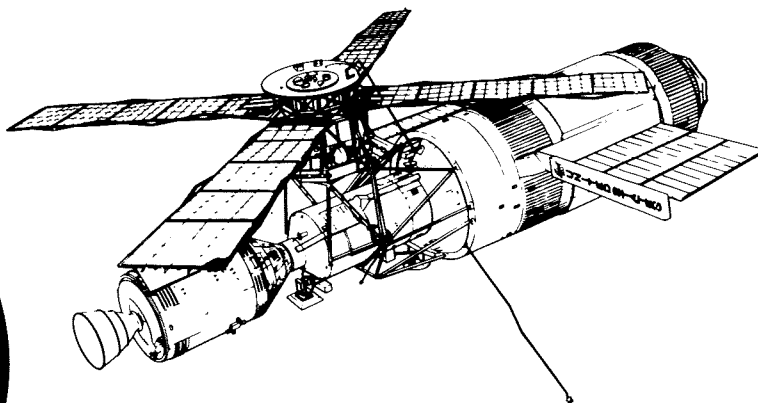
(NASA-TM-X-70411) SKYLAB EARTH RESOURCES
DATA CATALOG (NASA) 393 p MF \$2.25; SOD HC
\$8.75 CSCL 08F



Black-and-White
contact print of earth
terrain camera color
photograph of San
Francisco Bay area
(SL4-92-336)

4X
enlargement
of San Francisco
area

16X enlargement
of Fisherman's Warf
area



SKYLAB EARTH RESOURCES DATA CATALOG



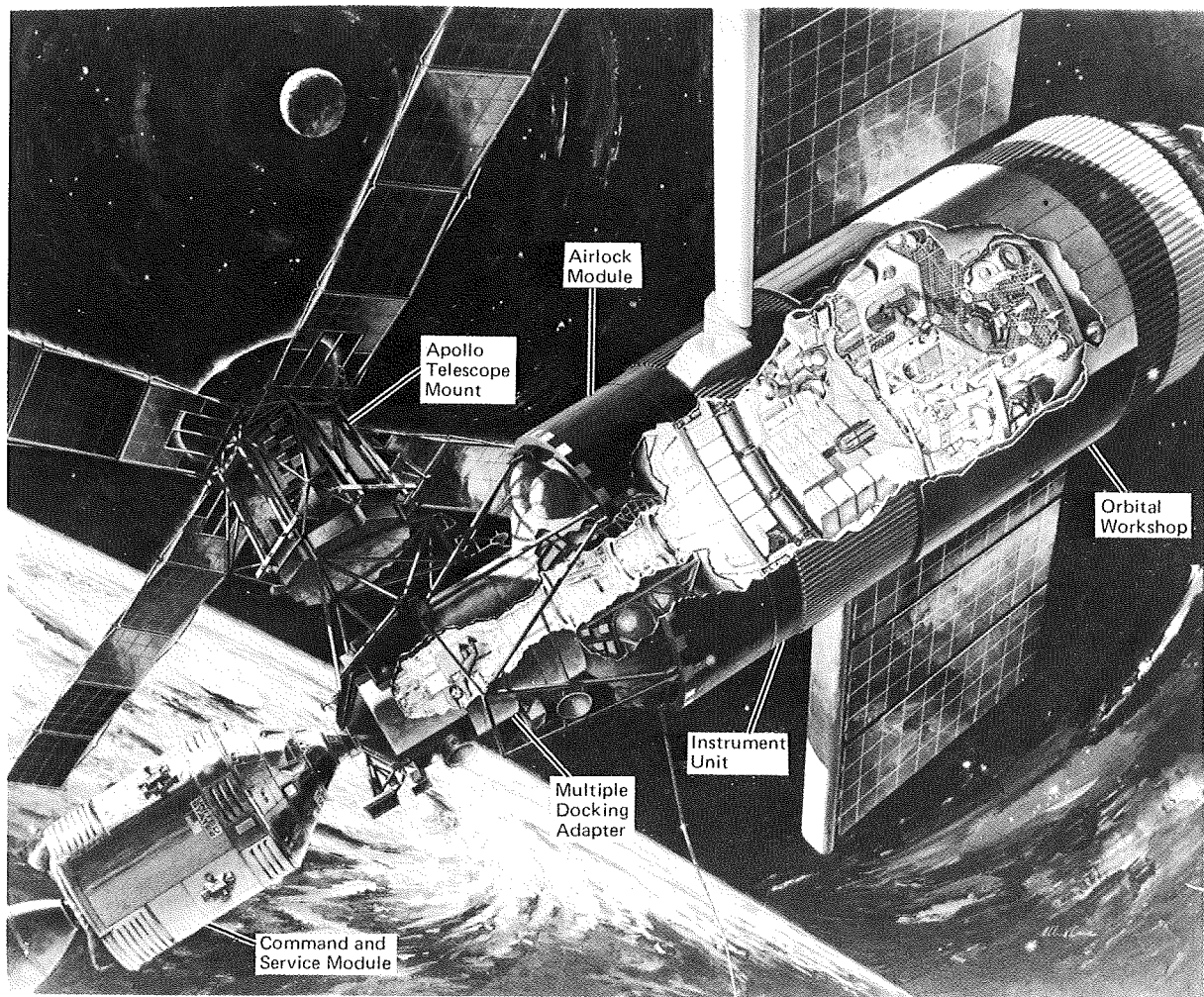
National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas, 1974

\$ 8.75

FOREWORD

Preparation of this book was directed by the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center. Chapters I through VIII were written by personnel of the Denver Division of the Martin Marietta Corporation.

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Skylab Orbital Cluster

PREFACE

After almost 3900 orbits of the earth, including 171 days of manned operation, Skylab completed its mission. It more than fulfilled its objectives to:

- increase knowledge of the sun, stars, and near-earth space through scientific observations from outside the filtering of the earth's atmosphere;
- increase knowledge of the functioning of living organisms, including man, in an orbital environment;
- develop techniques for observing and interpreting earth resources and earth phenomena from space;
- develop techniques for manned space operations and the use of weightlessness in materials research.

The mission culminated planning and studies, begun in the early 1960s, to extend the use of Apollo hardware and technology for further space research. These early efforts resulted in establishment of the Apollo Applications Office at NASA Headquarters in 1965, followed a year later by program offices at the Lyndon B. Johnson Space Center in Houston and the George C. Marshall Space Flight Center in Huntsville. The program was renamed *Skylab* in 1970, and a year later the launch date was set for April 1973.

Skylab was the largest manned space station ever put in orbit. Including the Command and Service Module, the orbital cluster was about 117 feet (35.7 meters) long, with a mass of 199,750 pounds (90 607 kilograms) and a habitable volume of 12,700 cubic feet (359.4 cubic meters) in five major compo-

nents. Skylab orbited the earth at an inclination of 50 degrees to the equator at an altitude of 235 nautical miles (435 kilometers).

The Orbital Workshop was essentially the Saturn launch-vehicle third stage, converted to living and working quarters for the astronauts. It was 48 feet (14.6 meters) long by 22 feet (6.7 meters) in diameter. Two large solar arrays were designed to extend from each side to provide half the power required to operate the space station and its experiments. A thin metallic micrometeoroid shield was also tightly packed against the workshop during launch and was supposed to be extended 6 inches (15.24 centimeters) from the surface after orbit insertion. Premature deployment of this shield during ascent resulted in its loss and damage to the workshop's solar arrays. On orbit, loss of the shield upset the heat balance in the workshop, and loss of one workshop solar array reduced the electrical power available. Launch of the first crew had to be postponed while the damage was assessed. A week of uncertainty about the success of the mission followed.

In a brilliant demonstration of ingenuity, flexibility, and tireless effort, the Skylab team succeeded in rectifying the deficiencies to permit completion of the mission even beyond the original expectations for duration and accomplishments. Thus, man's unique capabilities in space were established in a most convincing manner.

The Orbital Workshop was divided into two

compartments. The forward area included two airlocks in the outer wall for instrument access to the outside. The airlock facing the sun was covered by the jury-rigged sunshade erected by the astronauts to replace the lost shield. The other airlock was used extensively for geophysical and astronomical observations.

The rear compartment included living quarters and a small experiment work area. On the side away from the sun, a window was provided for crew observations.

The Instrument Unit, a 3-foot (0.91-meter) section adjacent to the Orbital Workshop, contained the guidance and control systems for unmanned orbit insertion, deployment of hardware and instruments, and pressurization of the interior.

The Airlock Module, structural link between the Orbital Workshop and the Multiple Docking Adapter, housed the control center for Skylab's electrical, environmental, and communications systems. It included a hatch for access to space for extravehicular activities.

The Multiple Docking Adapter was a multipurpose module. Structurally, it served to attach the Command and Service Modules; two docking ports were provided—one at the end for scheduled use, and the other on the side away from the sun for emergencies. Operationally, the module was the heart of solar research and earth resources investigations. It housed the Apollo Telescope Mount control panel, the Earth Resources Experiment Package and its operational control and recording equipment, as well as all films and tapes. The zero-gravity materials processing facility and other experiment components and equipment were also in the Multiple Docking Adapter.

The Apollo Telescope Mount contained an array of solar telescopes to study the sun. An enormous collection of data was obtained by the eight solar telescopes.

The mount also contained major compo-

nents of Skylab's primary pointing and control system, as well as electrical power subsystems. Operation of the telescopes was monitored and controlled from a panel in the Multiple Docking Adapter. Several of the telescopes required film, which was installed and retrieved by the astronauts during their extravehicular activities.

During launch and ascent to orbit, the Apollo Telescope Mount was folded into alignment with the rest of the Skylab cluster elements under a payload shroud. Once in orbit, the mount was rotated 90 degrees and four solar panels deployed automatically on signal from equipment in the Instrument Unit. The panels were designed to supply half the electrical power required by the cluster.

Skylab's normal attitude kept the Apollo Telescope Mount pointed at the sun. For earth resources observations, another major objective, the space station was rotated to point its sensors toward the earth.

The Skylab Earth Resources Experiment Package (EREP), at a nominal altitude of 235 nautical miles (435 kilometers), used visible-light and near-infrared photography and infrared spectrography, an electromechanical scanner, and sensors for microwave surveys. Film and tape recording equipment gathered masses of remotely sensed data that will be used to establish the feasibility and usefulness of such earth-survey techniques. The investigations assessed sensor types, designs, and capabilities needed to produce data of specific utility to earth resources management. Requirements for future systems can now be more firmly established. Methods for data processing and interpretation, the effects of atmospheric scattering and attenuation, as well as many operational requirements can be better defined.

The first Skylab crew was launched from the Kennedy Space Center on May 25, 1973 and completed 404 orbits of the earth at a nominal altitude of 235 nautical miles (435 kilometers) before returning on June 22. During 11 earth resources passes, the crew obtained 5,275 frames of imagery and 45,000

feet (13 716 meters) of magnetic tape data. The second crew was launched July 28, 1973 and completed 858 orbits that included 44 earth resources passes. The data, comprising 13,429 frames and 93,600 feet (28 529 meters) of tape, were returned to earth with the astronauts on September 25. The third crew, which took off on November 16, completed 1214 orbits and brought back 17,000 frames and 100,000 feet (30 480 meters) of taped earth resources data on February 8, 1974.

Design, development, and testing of this complex spacecraft required the talents of thousands of people in NASA, industry, and the scientific community. Three NASA centers played predominant roles in the Skylab Program—the Marshall Space Flight Center, Lyndon B. Johnson Space Center, and the John F. Kennedy Space Center.

Many companies contributed to Skylab's design and manufacturing under contract to NASA or as subcontractors. There was extremely close cooperation among NASA, scientific, academic, and industry personnel at all program levels.

The ultimate value of this teamwork may not be known for years, but there are immediate practical applications of the data Skylab has provided. This book provides a complete index of EREP photographs and information on how all EREP data can be obtained. It also gives examples and explains potential uses of the more than 35,000 frames of earth resources imagery and 238,600 feet (72 725 meters) of taped earth resources data. It represents one small part of the return on the nation's investment in the Skylab Program.

CONTENTS

	Foreword	iii
	Frontispiece	iv
	Preface	v
	Contents	ix
I.	The Skylab Earth Resources Experiment Package (EREP)	1
	Satellite Flight Characteristics	4
	Equipment and Data Formats	5
	Multispectral Photographic Camera	5
	Earth Terrain Camera	8
	Infrared Spectrometer	12
	Multispectral Scanner	13
	Microwave Radiometer, Scatterometer, and Altimeter	15
	L-Band Radiometer	18
II.	Remote Sensing	21
	Spectral Characteristics	22
	Incident Light	24
	Reflected Light	25
	Received Light	29
	Films	30
	Radiated Energy	32
	Spatial Characteristics	34
	Interpretation Aids	37
	Density Slicing	37
	Color Composites	39
	Digital Plots	43
	Summary	43
III.	Land Resource Management	51
	EREP Sensor Capabilities for Land Resource Management	52
	Multispectral Photographic Camera	53
	Earth Terrain Camera	59
	Multispectral Scanner	62
	Examples of Land Resource Management Techniques	64
	Map Preparation	64
	Land Use Inventories	69
	Land Resource Evaluation	76
	Summary of Potential Uses for Land Resource Management	84
	Product Summary	85

IV.	Water Resources	87
	Water Quality	87
	Water Inventory	90
	Wetlands	93
	Ground Water	94
	Lithology	94
	Geologic Structure	96
	Summary	97
V.	Marine Resources	99
	Dynamic Ocean Processes	100
	Coastal Processes	104
	Living Marine Resources	110
	Summary	111
VI.	Landform Surveys, Geologic Mapping, and Mineral Resources	113
	Suitability of EREP Sensors	113
	Multispectral Photographic Facility	113
	Multispectral Scanner	116
	Infrared Spectrometer and Microwave Radiometer, Scatterometer and Altimeter	116
	Examples of Techniques	116
	Landform Surveys	116
	Geologic Mapping	125
	Lithologic Discrimination and Identification	125
	Geologic Structure	127
	Plate Tectonics	131
	Geodesy	133
	Potential Uses of EREP Data	133
	Mineral Resources Exploration	133
	Environmental and Engineering Geology	137
	Summary of End Products	139
VII.	Agriculture, Forest and Range Resources	141
	Applicability of EREP Data	142
	Examples of Techniques	142
	Agricultural Land Use Stratification and Classification	143
	Crop Acreage and Yield Estimation	146
	Forest and Range Resources	151
	Summary	160
VIII.	Environmental Applications	161
	Water Quality	162
	Air Quality	169
	Land Quality	174
	Summary	175
IX.	Obtaining EREP Data	177
X.	Skylab EREP Photographic Data Index	179
	Skylab 2	185
	Skylab 3	213
	Skylab 4	279
XI.	Coverage Maps	359

I. THE SKYLAB EARTH RESOURCES EXPERIMENT PACKAGE (EREP)

Increasingly, our society is realizing that man must concern himself with the protection and wise use of his resources. The concern spans the spectrum of energy, food, minerals, and the quality of the environment. The problem is to balance consumption against conservation.

The complexity of the problem is enormous and the extent is global. To solve it, a wide variety of synoptic information is needed. Therefore, gathering data by remote sensing from satellites offers several advantages—repetitive and frequent viewing, complete coverage, and comprehensive overviews. Several space programs have provided such information. One of these was Skylab's EREP, an integrated program that comprised three basic elements—principal investigators to use and evaluate the experiments and data, space hardware, and supporting observations to provide correlative ground information. The result is a wealth of data—some leading directly to practical uses, some showing the way to future applications, and some contributing to development of improved sensors for future space missions.

The purpose of this book is to provide a complete index of EREP photographs and information on how data can be obtained. It is also hoped that suggestions presented here for uses of these data will reach potential users, who are not intimately acquainted with the utility of data gathered from space, and stimulate them to apply the data to their fields of interest.

EREP was designed to be a logical step in the application of equipment and techniques used

in aerial surveys and the Earth Resources Technology Satellite (ERTS). [This satellite was launched nearly a year before Skylab and routinely provides images of selected areas in several wavelength bands, from visible through infrared, from its 492-nautical-mile (911-kilometer) orbit.]

During the three missions (May–June, July–September, and November 1973 to February 1974), EREP sensors were operated individually or as a group, depending on the scientific requirements of the investigation, weather, and vehicle capability. The data recorded on tape and film were returned to the Johnson Space Center for processing. Figure 1 shows the functional interrelationships of the sensors. Figure 2 shows the locations of the sensors on the Skylab Multiple Docking Adapter.

The earth terrain camera was mounted in the scientific airlock of the Orbital Workshop and boresighted with the multispectral camera. The other EREP sensors were located together and subject to the same vehicle pointing and stabilization constraints. As described later in this chapter, some instruments had independent pointing capabilities.

An understanding of the Earth Resources Experiment Package (EREP) equipment and data characteristics is prerequisite to effective application of the data to practical problems. Therefore, this chapter briefly describes each sensor and the data available from it—but first, to understand the limitations imposed by the spacecraft, a reminder about satellite flight characteristics.

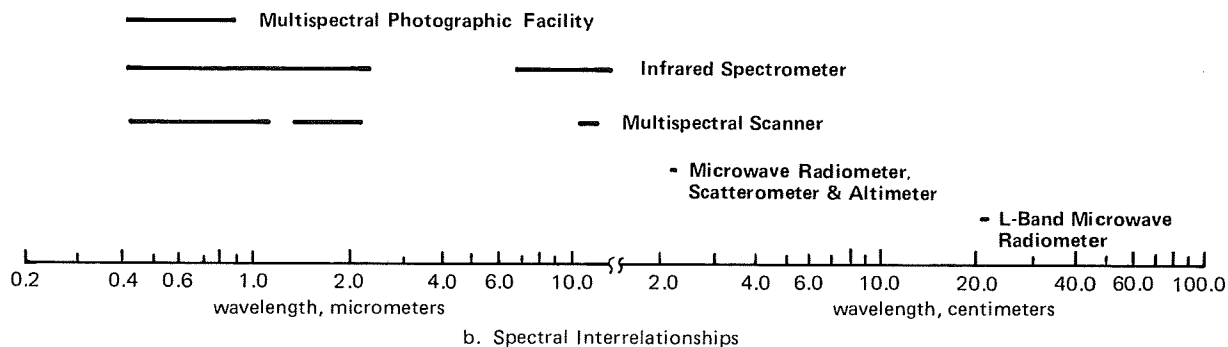
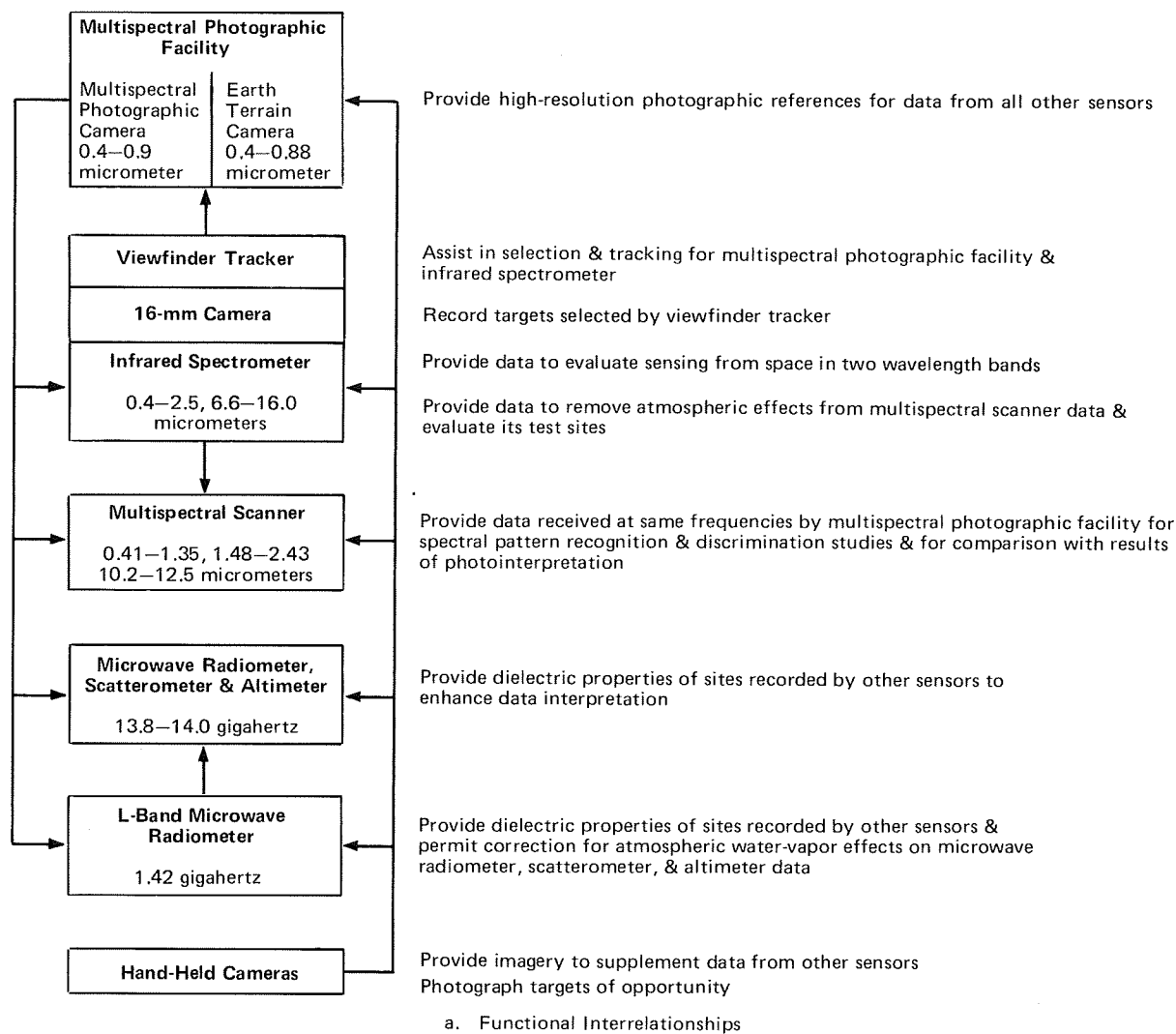
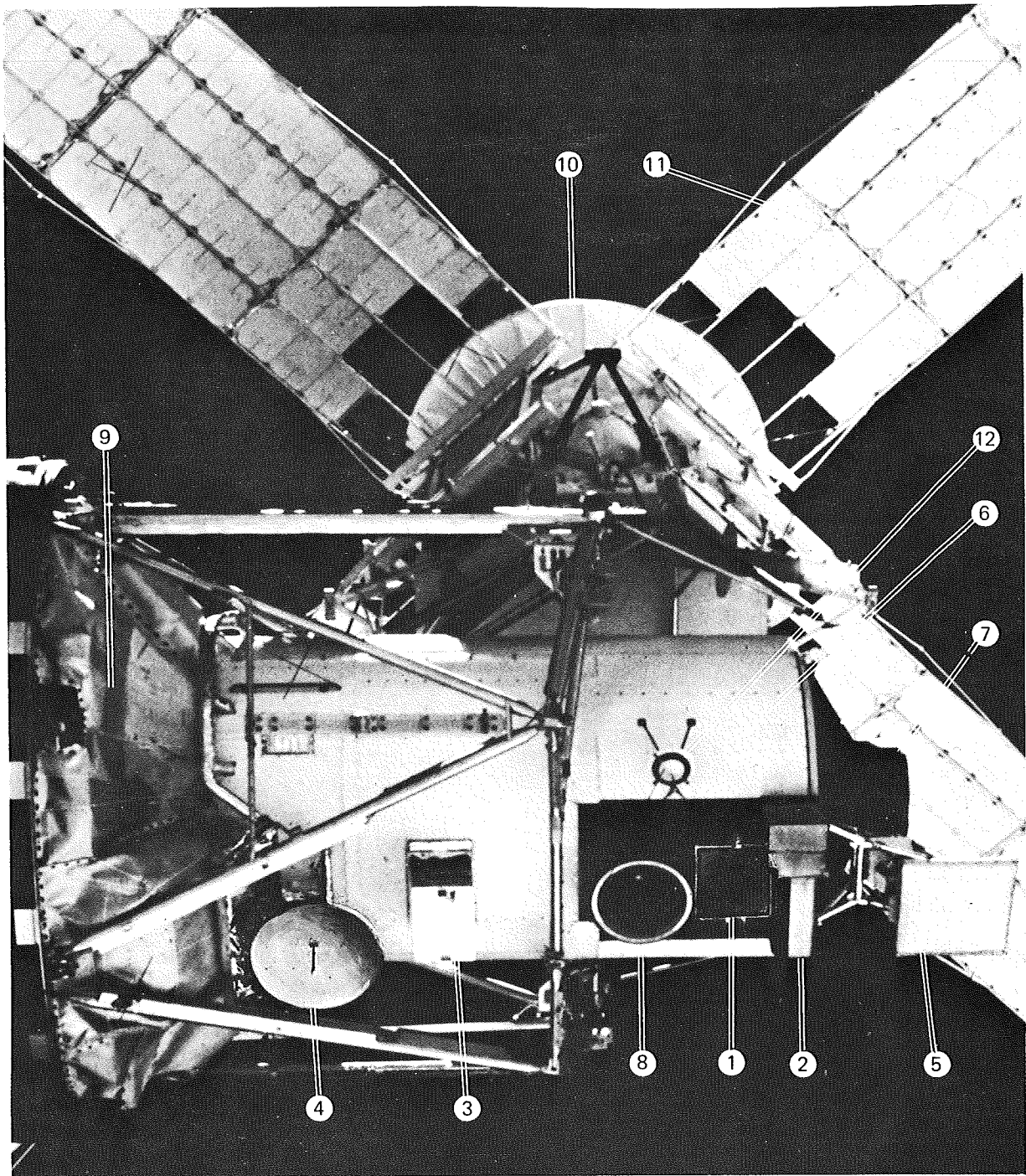


Figure 1 Earth Resources Experiment Package Sensor Interrelationships



- | | |
|--|--|
| 1. Multispectral Photographic Camera | 7. Command and Service Module Docking Port |
| 2. Infrared Spectrometer, Viewfinder and Tracking System | 8. Auxiliary Docking Port |
| 3. Multispectral Scanner | 9. Airlock Module |
| 4. Microwave Radiometer, Scatterometer, and Altimeter | 10. Apollo Telescope Mount |
| 5. L-Band Radiometer | 11. Apollo Telescope Mount Solar Array |
| 6. Multiple Docking Adapter | 12. Docking Probe |

Figure 2 Skylab EREP Sensor Locations

SATELLITE FLIGHT CHARACTERISTICS

Because of the physical laws involved, a satellite orbiting the earth has a limited view of the surface. There are three reasons for this. As shown in Figure 3, the area north and south of the equator over which the spacecraft will pass is a function of the angle (inclination) between the flight path and the equator. The smaller the angle, the smaller the area covered. The width of the band that can be observed along the ground track is also limited—by the altitude and the field of view of the instrument used. However, orbiting satellite flight paths are repetitive—that is, after a given number of orbits, the vehicle will retrace its original ground track. Therefore, in theory, a spacecraft could survey all the territory over which it flies, provided the field of view of the sensor were wide enough to prevent gaps between the ground tracks. In practice, particularly with manned multi-purpose spacecraft, such comprehensive coverage is not feasible because of crew and vehicle limitations.

Skylab was launched with a 50-degree inclination, as shown in Figure 4, so its theoretical coverage was limited to an area 50 degrees north and south of the equator. Because it completed an orbit every 93 minutes, it repeated its ground track every five days. However, in spite of this, the Earth Resources Experiment Package's coverage along Skylab's ground track is not complete. Weather and

astronauts' schedules did not permit continuous operation of the equipment during daylight periods. Instrument time was devoted to gathering data for specific preplanned investigations, many of which were coordinated with aircraft and field observations at ground sites.

Nevertheless, as shown on the maps in Chapter XI, millions of square miles were surveyed, providing a rich source of information for students of our small planet.

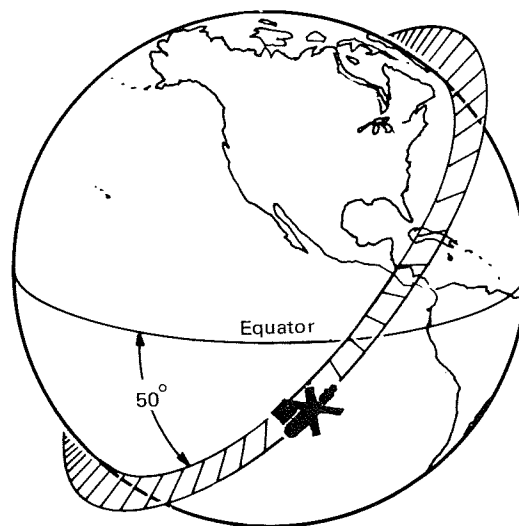


Figure 3 Satellite Flight Path and Ground Track

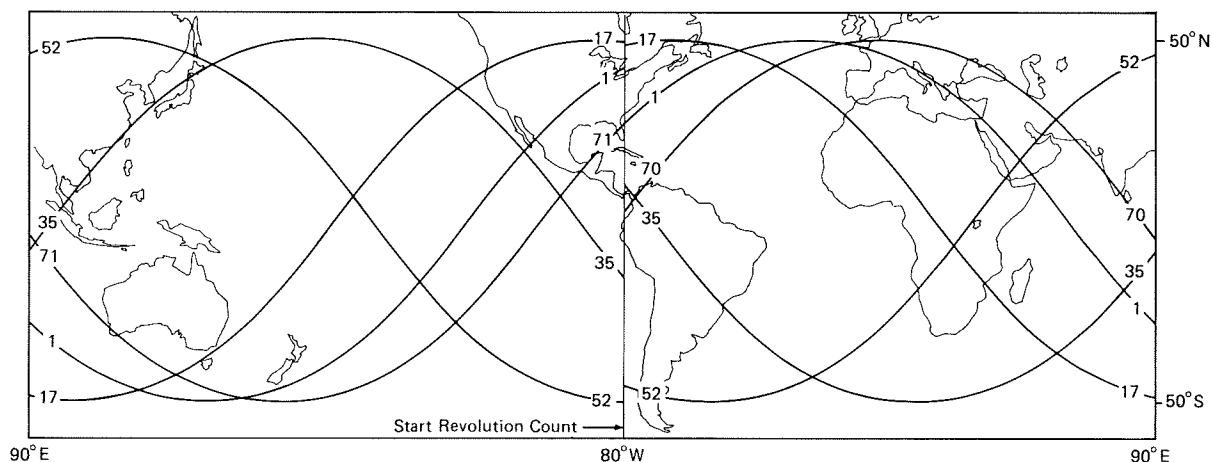


Figure 4 Selected Skylab Ground Tracks

EQUIPMENT AND DATA FORMATS

In describing the EREP sensors and their output, we will start with the Multispectral Photographic Facility, which comprised two cameras—the multispectral photographic camera and the earth terrain camera.

Multispectral Photographic Camera

Six high-precision cameras with matched optical systems were mounted and boresighted to form this camera assembly, shown in Figure 5. Each had an f/2.8 lens with aperture variable to f/16 in ½-stop increments and a focal length of 6 inches (15.2 centimeters). At a nominal spacecraft altitude of 235 nautical miles (435 kilometers), the 21.2-degree square field of view provided ground coverage 88 nautical miles (163 kilometers) square, as shown in Figure 6.

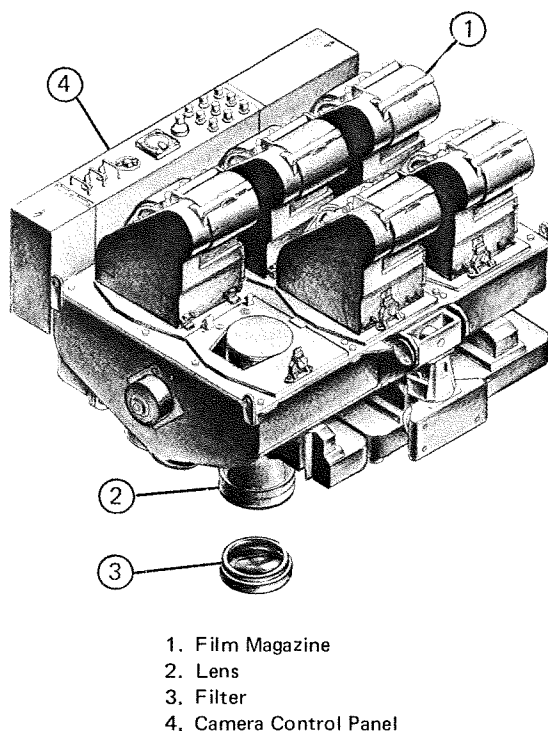


Figure 5 Multispectral Photographic Camera

Film width was 70 millimeters, which provides a usable image 2¼ inches (5.7 centimeters) square. Shutter speeds were 2.5, 5, and 10 milliseconds, and the six shutter mechanisms were synchronized to within 0.4 millisecond. The camera system compensated for the forward motion of the spacecraft along the flight path, and photographs could be taken singly or in automatic series with intervals of 2 to 20 seconds. To provide for stereoscopic viewing, overlaps of 60 percent were obtained using 10-second intervals.

Each of the six cameras was identified by a station number and equipped with combinations of filters and films for the various wavelength bands, as shown in Table 1. Film roll numbers used on each mission are also shown.

Data available from the multispectral camera include negatives, transparencies, and positive prints, identified as shown in Figure 7.

Chapter X (page 179ff) lists the multispectral camera photographs available. They can be obtained in 100-foot (30.5-meter) rolls of 16-millimeter microfilm and as shown in Table 2. Chapter IX (page 177ff) provides information on how to order multispectral camera photographs.

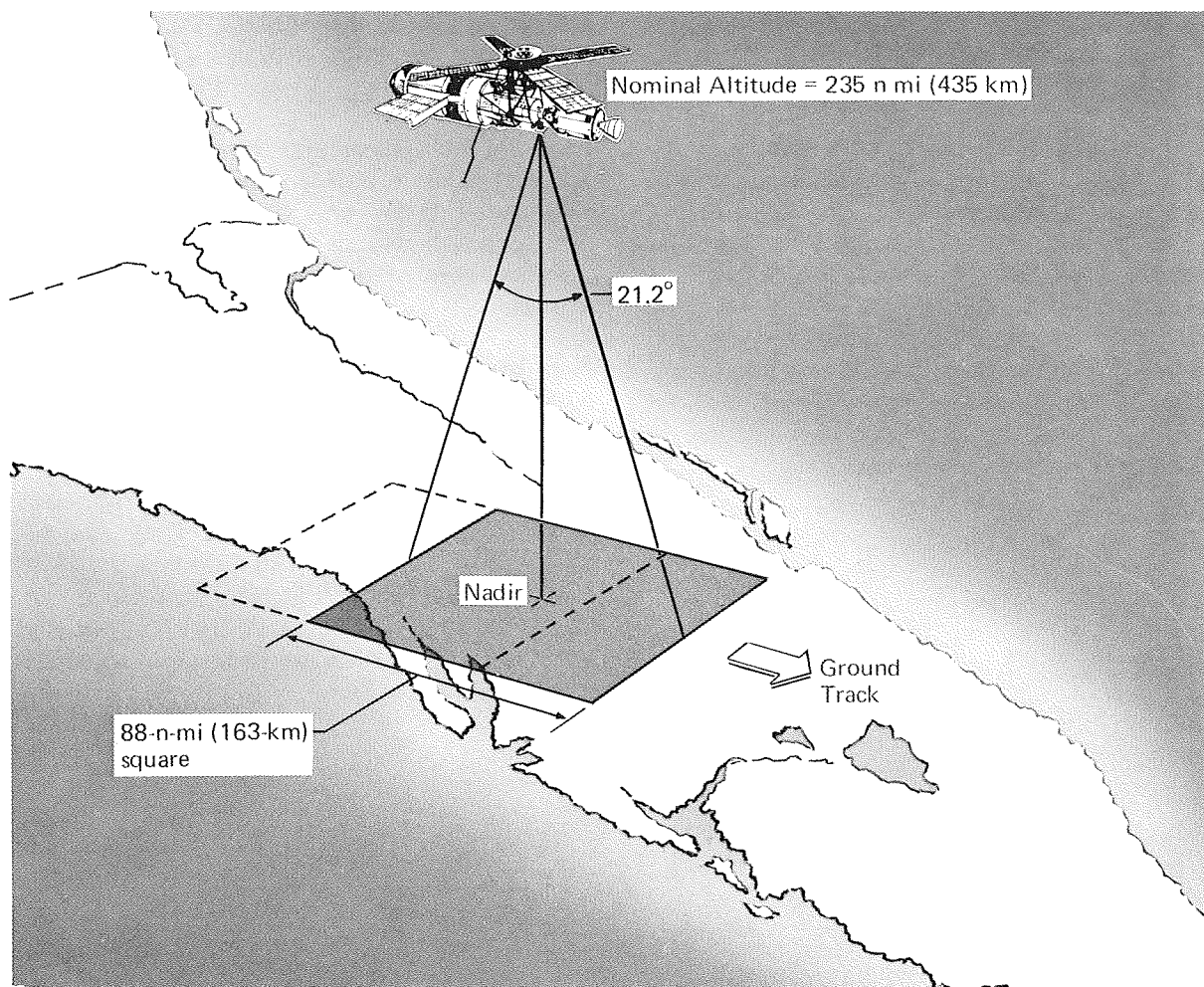


Figure 6 shows the ground coverage of the multispectral camera at approximately the same scale as the Florida peninsula. During an EREP pass, the cameras

were pointed to within 2.5 degrees of the nadir, and vehicle rates were stabilized to less than 0.005 degree per second about any axis.

Table 1 Multispectral Camera Station Characteristics and Film Rolls Used

Sta	Filter	Filter Bandpass, micrometer	Film Type*	Estimated Ground Resolution††, feet (meters)	Mission & Roll No.		
					SL-2†	SL-3	SL-4
1	CC	0.7 – 0.8	EK 2424 (B&W infrared)	240 – 260 (73 – 79)	01‡,07,13	19,25,31,37,43	49§,55,61,67,73,A1,1B
2	DD	0.8 – 0.9	EK 2424 (B&W infrared)	240 – 260 (73 – 79)	02,08,14	20,26,32,38,44	50§,56,62,68,74,A2,2B
3	EE	0.5 – 0.88	EK 2443 (color infrared)	240 – 260 (73 – 79)	03,09,15	21,27,33,39,45	51§,57,63,69,75,A3,3B
4	FF	0.4 – 0.7	SO-356 (hi-resolution color)	130 – 150 (40 – 46)	04,10,16	22,28,34,40,46	52§,58,64,70,76,A4,4B
5	BB	0.6 – 0.7	SO-022 (PANATOMIC-X B&W)	100 – 125 (30 – 38)	05,11,17	23,29,35,41,47	53§,59,65,71,77,A5,5B
6	AA	0.5 – 0.6	SO-022 (PANATOMIC-X B&W)	130 – 150 (40 – 46)	06,12,18	24,30,36,42,48	54§,60,66,72,78,A6,6B

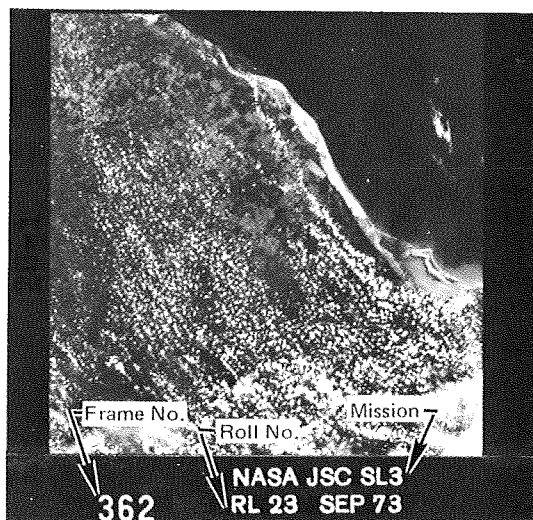
* Eastman Kodak Company

† SL-1 was the launch of Skylab without crew.

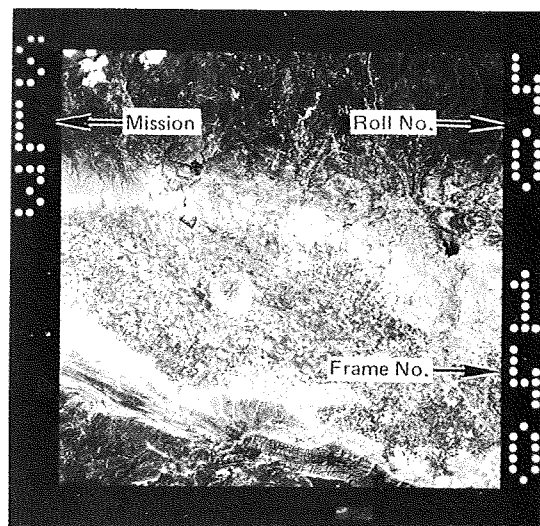
†† At low contrast

‡ Note that all roll numbers are 2-digit numbers. Single-digit numbers were used in other cameras.

§ Without filter



a. Black and white



b. Color

Figure 7 shows typical frames available from the multispectral camera. The frame number on each roll begins with 001 and runs consecutively to the end of the roll. The Reseau number indicates the camera station from which the image was taken:

Reseau No.	Station
15	1
08	2
11	3
02	4
06	5
10	6

Film roll numbers for each Skylab mission and camera station are shown in Table 1.

Table 2. Multispectral Camera Data Products

Scale*	Image Size, inch (cm)	Enlargement	Products			
			Black and White Transparency	Print	Color Transparency	Print
1:2,850,000	2.25 x 2.25 (5.72 x 5.72)	1.00X	Positive Negative	None	Positive†	None
1:1,000,000	6.41 x 6.41 (16.29 x 16.29)	2.85X	Positive Negative	Positive	Positive	Positive
1: 500,000	12.83 x 12.83 (32.50 x 32.50)	5.70X	Positive	Positive	None	Positive
1: 250,000	25.65 x 25.65 (65.15 x 65.15)	11.40X	Positive	Positive	None	Positive

* Scales are nominal, exact scale as printed will be supplied with the photos.

† Negative transparencies can be obtained from the Agricultural Stabilization and Conservation Service of the United States Department of Agriculture, 2505 Parley's Way, Salt Lake City, Utah, 84109.

Earth Terrain Camera

This single-lens camera assembly (Figure 8) had an f/4 lens with a focal length of 18 inches (45.7 centimeters) and was compensated for Skylab's forward motion. It was aligned within 1.4 degrees of the multispectral camera. The field of view of 14.24 degrees provided a square ground coverage of about 59 nautical miles (109 kilometers), as shown in Figure 9. Film and filters used are shown in Table 3.

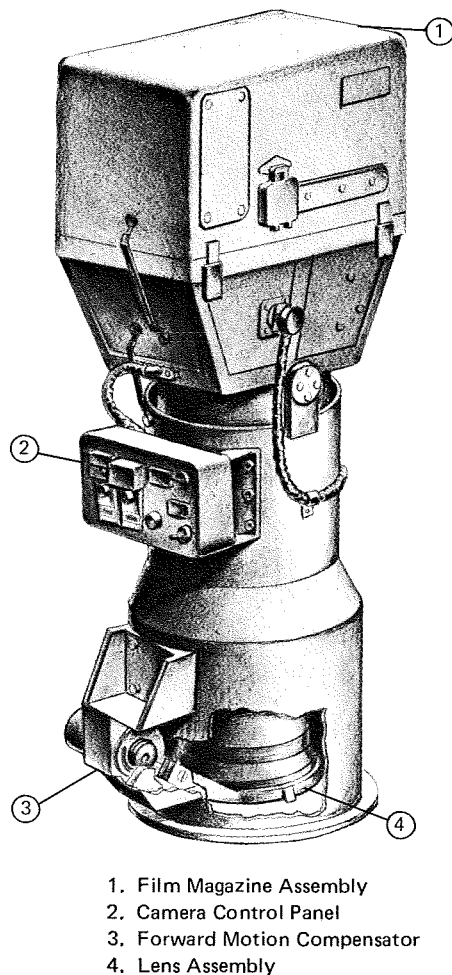


Figure 8 Earth Terrain Camera

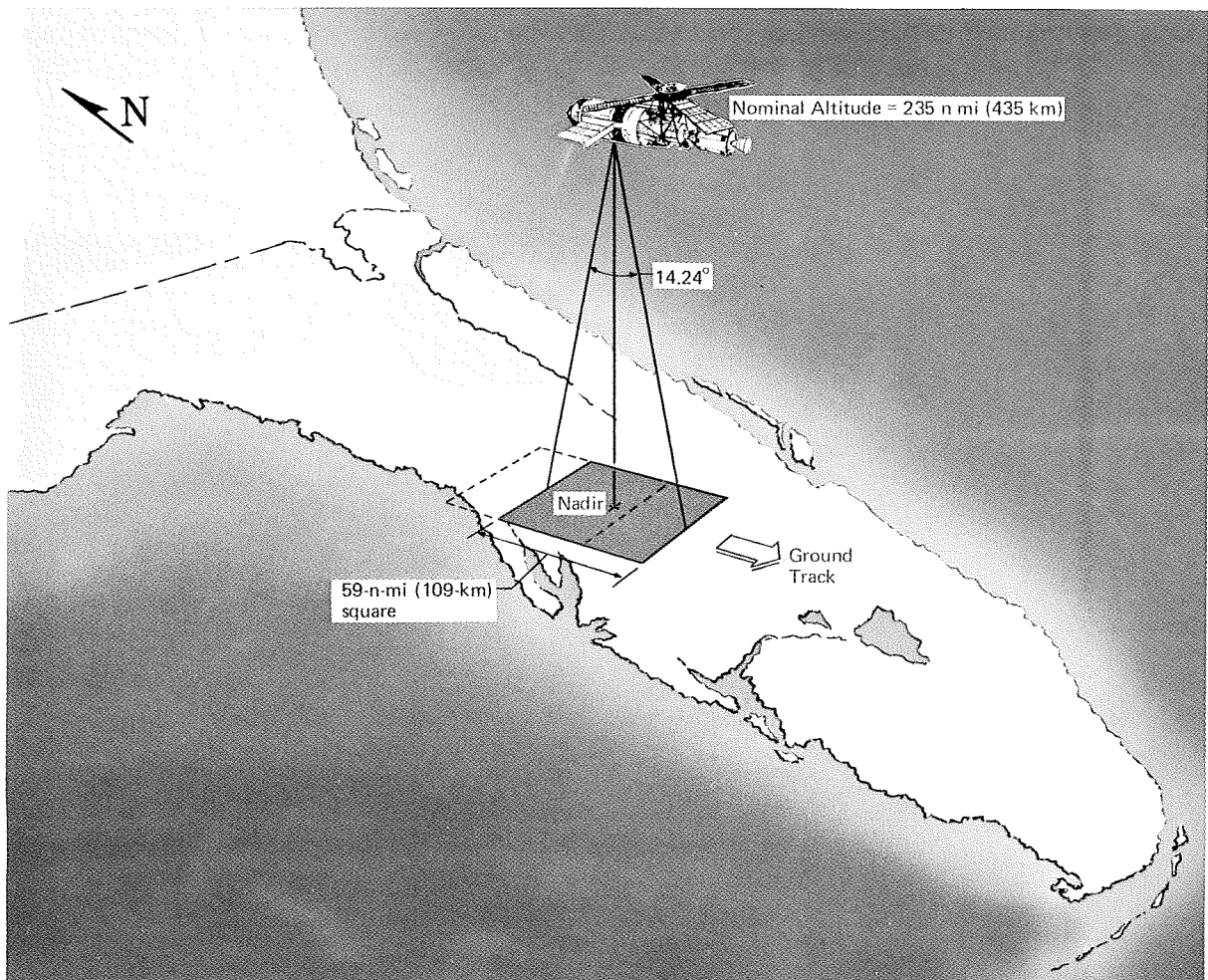


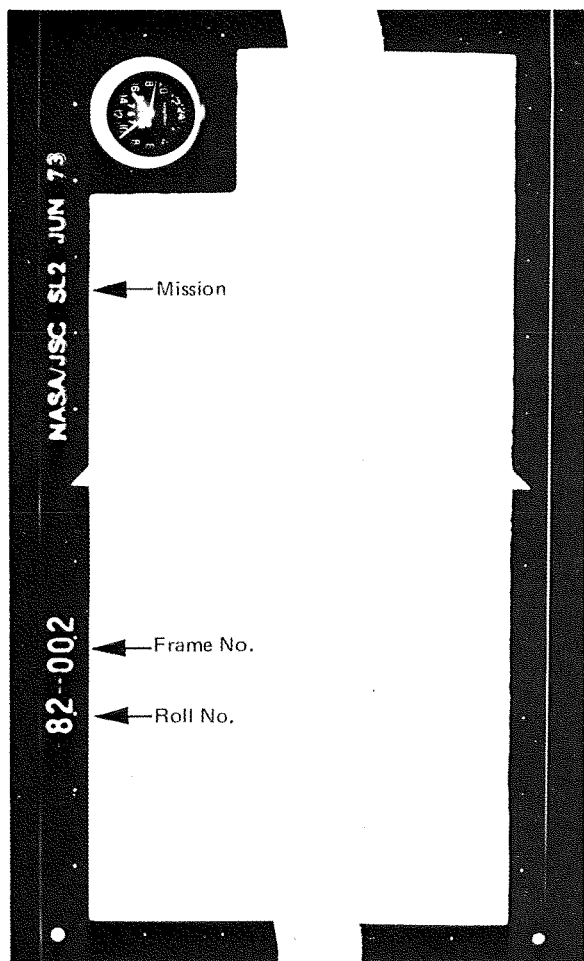
Figure 9 shows the ground coverage of the earth terrain camera at approximately the same scale as the Florida peninsula. During an EREP pass, the camera

was pointed to within 2.5 degrees of the nadir, and vehicle rates were stabilized to less than 0.005 degree per second about any axis.

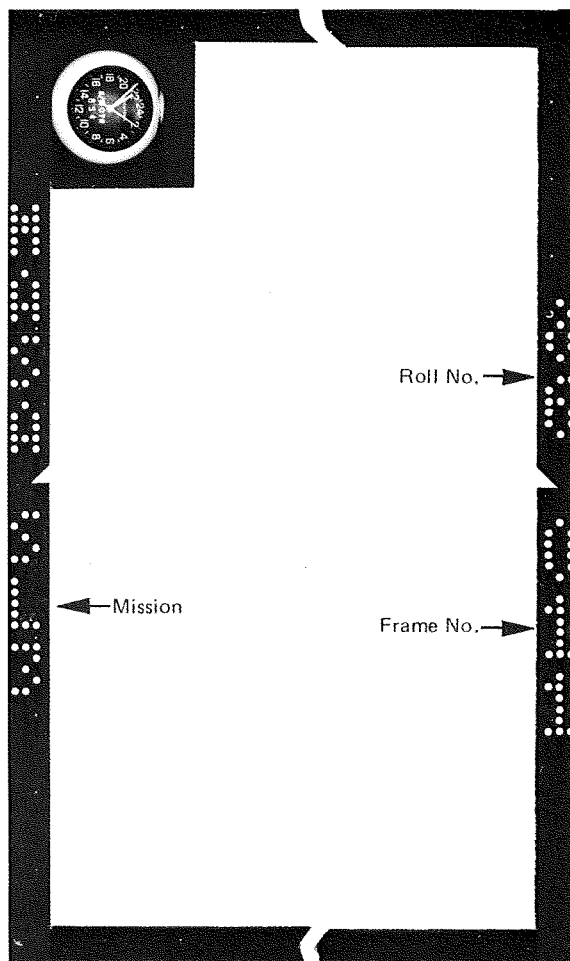
Film width was 5 inches (12.7 centimeters), which provides a usable image that is 4.5 inches (11.4 centimeters) square. Shutter speeds were 1/100, 1/140, and 1/200 of a second. Sequence photography intervals were possible from 0 to 25 frames per minute. To provide for stereoscopic viewing, overlaps of 60 percent were obtained using a rate of 10.5 frames per minute. Ancillary information is on each frame, as shown in Figure 10. Film

roll numbers used on each mission are shown in Table 3.

Chapter X (page 179ff) lists the earth terrain camera photographs available. They can be obtained in 100-foot (30.5-meter) rolls of 16-millimeter microfilm and as shown in Table 4. Chapter IX (page 177ff) provides information on how to order earth terrain camera photographs.



a. Black and white



b. Color

Figure 10 shows the identification on frames available from the earth terrain camera. The frame number on each roll begins with 001 and runs consecutively to

the end of the roll. Film roll numbers used on each mission are shown in Table 3. The clock can be used to determine the time differences between frames.

Table 3. Earth Terrain Camera Film Characteristics and Rolls Used

Film Type*	Wratten Filter	Filter Bandpass, micrometer	Estimated Ground Resolution††, feet (meters)	Mission & Roll No.		
				SL-2	SL-3	SL-4
SO-242 (hi-resolution color)	none	0.4 – 0.7	70 (21)	81	83,84, 86,88	90,91, 92,94
EK 3414 (hi-definition B&W)	12†	0.5 – 0.7	55 (17)	82	85	89
EK 3443 (SL-2 & SL-3) (infrared color)	12	0.5 – 0.88	100 (30)	—	87	—
SO-131 (SL-4) (hi-resolution infrared color)	12	0.5 – 0.88	75 (23)	—	—	93

* Eastman Kodak Company

† "Minus blue" filter

†† at low contrast

Table 4. Earth Terrain Camera Data Products

Scale*	Image Size, inch (cm)	Enlargement	Products			
			Black and White Transparency	Print	Color Transparency	Print
1:950,000	4.50 x 4.50 (11.43 x 11.43)	1.0X	Positive Negative	None	Positive†	Positive
1:500,000	8.55 x 8.55 (21.72 x 21.72)	1.9X	None	Positive	None	Positive
1:250,000	17.10 x 17.10 (43.43 x 43.43)	3.8X	None	Positive	None	Positive
1:125,000	34.20 x 34.20 (86.87 x 86.87)	7.6X	None	Positive	None	Positive

* Scales are nominal, exact scale as printed will be supplied with the photos.

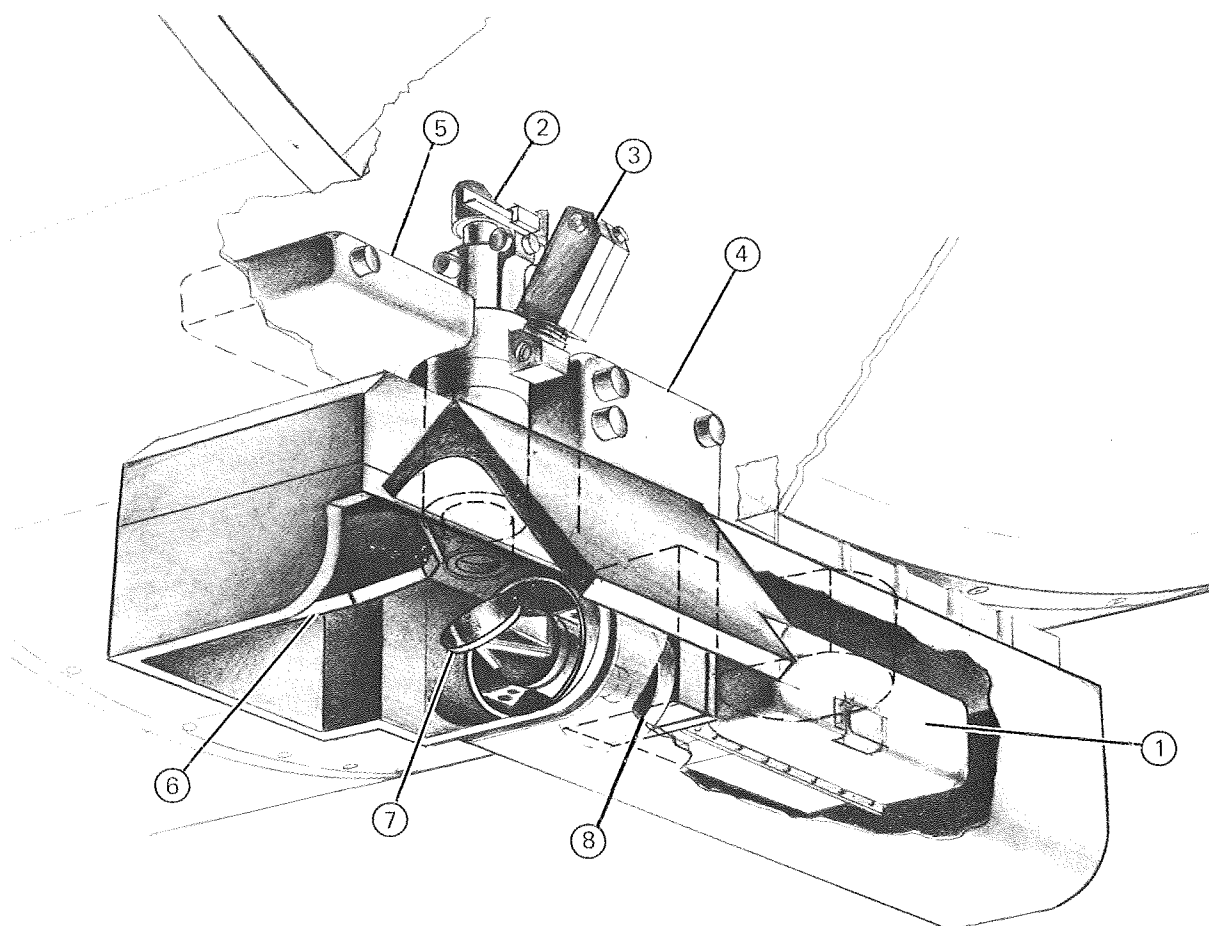
† Negative transparencies can be obtained from the Agricultural Stabilization and Conservation Service of the United States Department of Agriculture, 2505 Parley's Way, Salt Lake City, Utah, 84109,

Infrared Spectrometer

Three major elements made up this instrument—a Cassegrainian telescope and plane-mirror optical system that provided an image of the scene to the other two elements, a filter-wheel spectrometer that scanned the radiation from the scene, and a boresighted viewfinder and tracking system with the same line of sight as the spectrometer. The viewfinder and tracking system allowed the astronaut to acquire and track a given test site and take 16-millimeter photos of the scene for identification (Figure 11).

The viewfinder and tracking system's maximum pointing capability was 20 degrees each side of the ground track and from 45 degrees ahead of the nadir to 24 degrees behind. Its zoom telescope provided ground coverage from 7 to 70 nautical miles (13 to 130 kilometers) in diameter. The fields of view of the tracking system and spectrometer are shown in Figure 12.

The infrared sensor's instantaneous field of view was approximately 0.235 nautical mile (0.435 kilometer) in diameter. Incoming radiation was split into short- and long-wavelength bands—0.4 to 2.5 micrometers and 6.6



- | | |
|-----------------------------|---|
| 1. Infrared Spectrometer | 5. Viewfinder and Tracking System Control Panel |
| 2. Telescope | 6. Gimbaled Mirror |
| 3. Data Acquisition Camera | 7. Pickoff Mirror |
| 4. Spectrometer Electronics | 8. Cassegrainian Optics |

Figure 11 Infrared Spectrometer with Viewfinder and Tracking System

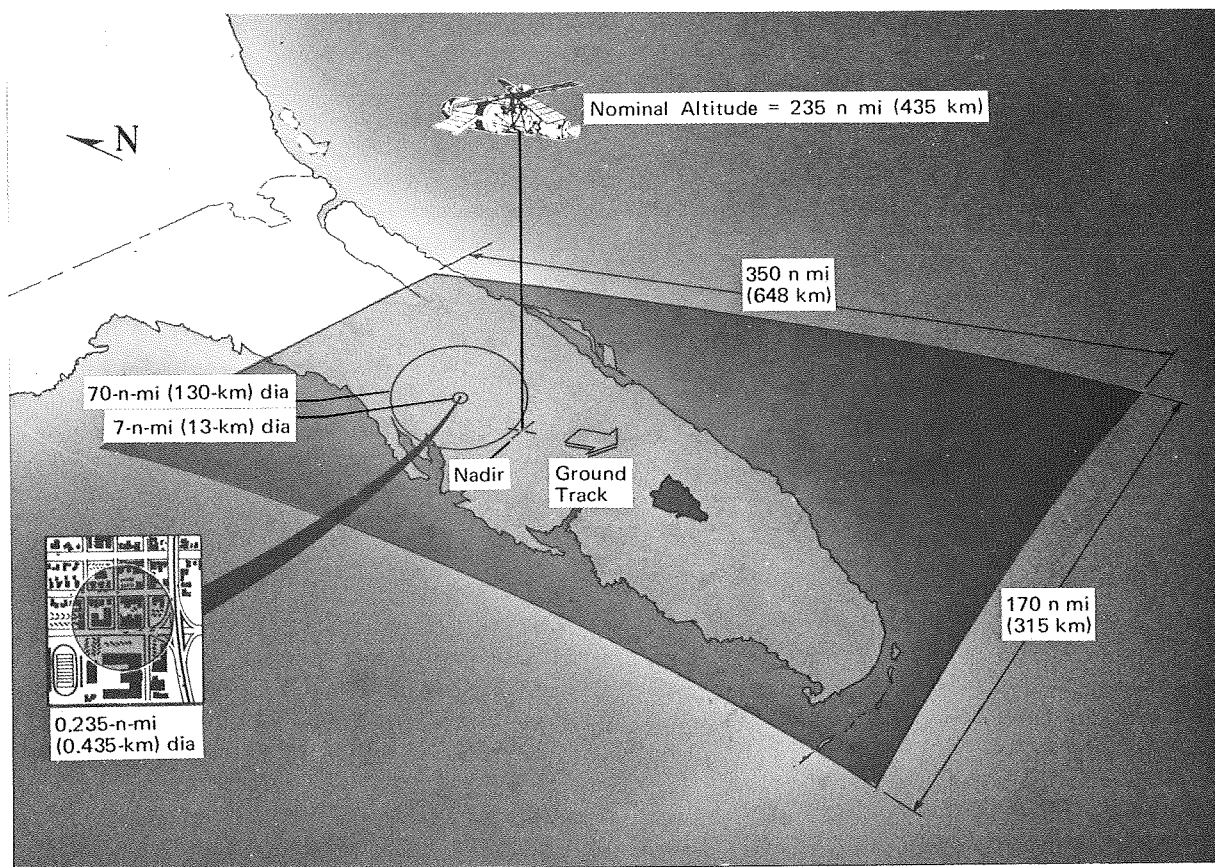


Figure 12 shows the ground coverage of the infrared spectrometer and viewfinder and tracker system at approximately the same scale as the Florida peninsula-

la. During an EREP pass, vehicle rates were stabilized to less than 0.005 degree per second about any axis.

to 16 micrometers. The solar reflected and thermal emitted radiation from the scene was compared to known internal sources, providing a radiance calibration. The data were encoded in six data channels at 684 samples per second for each channel and recorded on magnetic tape. In-flight calibration spectra recorded before and after each data-gathering pass allowed the spectral voltage signals to be converted into radiance values.

Data from the infrared spectrometer consist of computer-compatible tapes of raw and digitized data with ancillary information such as tape format descriptions, calibration data, data-acquisition characteristics like time, spacecraft attitude, field of view, etc.

Multispectral Scanner

This optical electromechanical scanner (Figure 13) collected incoming radiant energy using a rotating mirror in the image plane to conically scan the scene viewed. A spherical mirror was the major element of a folded reflecting telescope that had a 17-inch (43.2-centimeter) entrance pupil. The energy scanned in the image plane passed through a reflective Schmidt corrector mirror and through a field stop that was the entrance slit of a prism spectrometer. A dichroic mirror then separated the short wavelengths (0.41 to 2.43 micrometers) from the long thermal wavelength band (10.2 to 12.5 micrometers).

The spectrally dispersed electromagnetic energy received from the scene simultaneously irradiated thirteen detectors. Each responded to a specific wavelength band:

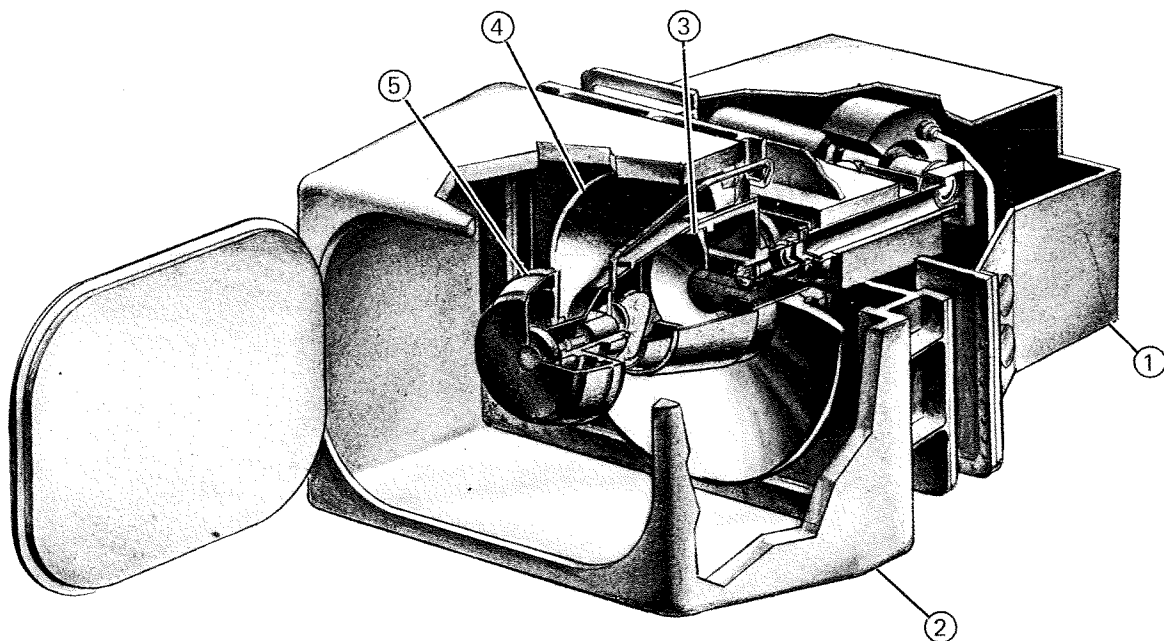
Band No.	Wavelength, micrometers
1	0.41 – 0.45
2	0.44 – 0.52
3	0.49 – 0.56
4	0.53 – 0.61
5	0.59 – 0.67
6	0.64 – 0.76
7	0.75 – 0.90
8	0.90 – 1.08
9	1.00 – 1.24
10	1.10 – 1.35
11	1.48 – 1.85
12	2.00 – 2.43
13	10.20 – 12.50

Each detector produced an electronic signal that corresponded to the average value of the radiance received in its spectral band from the spot on the surface in the instrument's 0.182-

milliradian field of view. The detector outputs were amplified, converted to digital, multiplexed, buffered, and recorded on magnetic tape.

The 0.182-milliradian field of view of each detector provided an instantaneous square ground coverage of 260 feet (79 meters), swept in a conical scan as shown in Figure 14. Although the scan assembly rotated a full 360 degrees, only the forward 110 degrees were used to obtain data. The corresponding sweep angle viewed from the sensor was 10.4 degrees, which provided a ground swath width of 40 nautical miles (74 kilometers).

Data from the multispectral scanner consist of computer-compatible tapes of raw or calibrated data with ancillary information such as tape format descriptions, calibration data, data-acquisition characteristics like time, spacecraft attitude, field of view, etc. The calibrated tape may provide either scan-line



- 1. Internal Scanner Assembly
- 2. External Scanner Assembly
- 3. Spherical Primary Mirror
- 4. Reflective Collector Mirror
- 5. Secondary Mirror

Figure 13 Multispectral Scanner

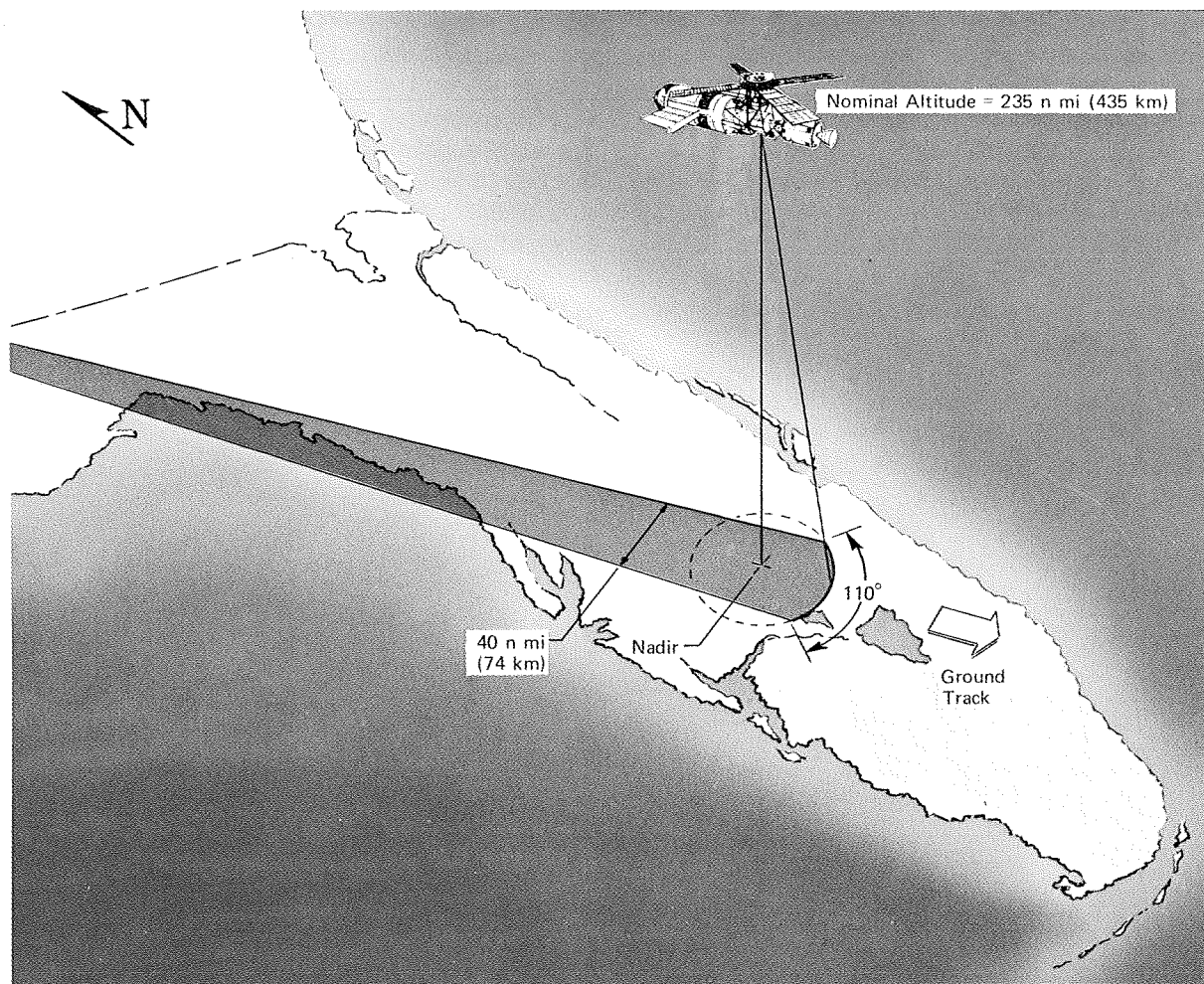


Figure 14 shows the ground coverage of the multi-spectral scanner at approximately the same scale as the Florida peninsula.

straightened aperture radiance or conical scan-line aperture radiance. Screening film will be provided to enable the user to select any particular segment for processing.

Selected data are processed to produce 5-inch (12.7-centimeter) film images from radiometrically corrected data. This imagery is in the form of black-and-white screening film for selected bands, color composites from up to three bands, or false color based on amplitude ranges from a single band. The latter is the equivalent of a density-sliced photographic image.

Microwave Radiometer, Scatterometer, and Altimeter

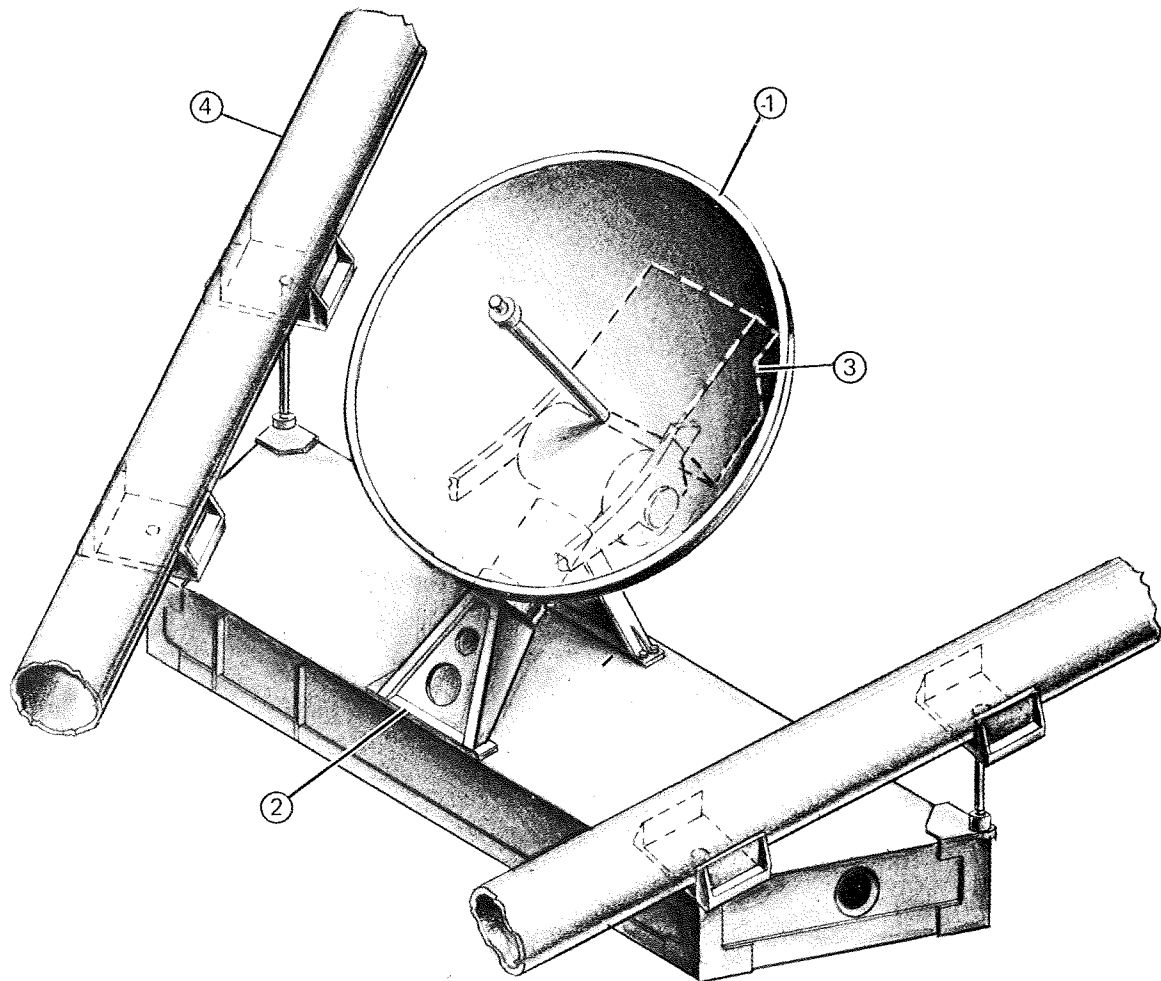
The active microwave scatterometer and passive microwave radiometer shared one antenna (Figure 15) with the altimeter.

From radiometer measurements, the brightness temperature of the earth's surface within the field of view (1.6-degree half power) was determined as a function of incidence angle from surface normal to 48 degrees in the frequency range from 13.8 to 14 gigahertz.

The mean value of the earth's thermal noise signal was determined by sufficiently long observations. The measured energy, converted to brightness temperature, was compared to the mean noise energy from two known internal temperature sources to yield an accurate proportional measurement of the earth's microwave emission within the instrument's field of view. Calibration was provided by comparing the measurement with two internal noise temperature sources.

The scatterometer measured the backscattering of radiation from the earth at 13.9 gigahertz as a function of incidence angles

from 0 (vertical) to 48 degrees. The calculated scattering coefficient was related to the roughness and dielectric properties of the surface viewed. A number of measurements of the scattered return signal (which looks like thermal noise) and receiver noise were taken and integrated to obtain an accurate measurement of average return power from which the backscattering coefficient was calculated. By operating the radiometer and scatterometer concurrently, collections of paired values of the backscattering coefficient and apparent blackbody temperature for each surface measurement permitted separation of emissivity effects from reflectivity effects.



- | | |
|-------------------------|---|
| 1. Parabolic Antenna | 3. Gimbal Assembly |
| 2. Electronics Assembly | 4. Apollo Telescope Mount Deployment Assembly Truss |

Figure 15 Antenna for the Microwave Radiometer, Scatterometer, and Altimeter

The radiometer and scatterometer operated jointly or separately in four scanning modes with various polarizations, as shown in Figures 16 through 19.

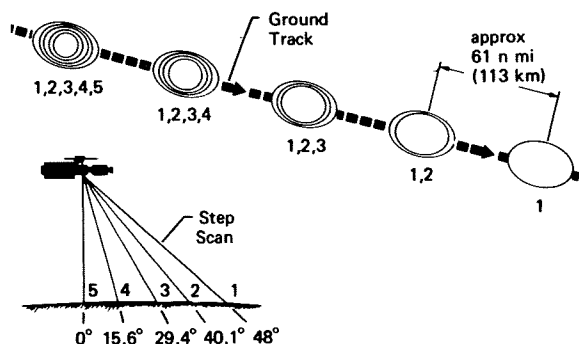


Figure 16 shows the in-track noncontiguous ground coverage provided by joint operation of the radiometer and scatterometer. The objective was measurement of backscatter and brightness temperatures at five angles of incidence from 48 to 0 degrees. The antenna was then repositioned to 48 degrees and the slew and dwell sequence repeated. The process was repeated until each field of view had five successive scans at successively smaller angles. During each dwell period, measurements could be taken for each transmit-receive polarization pair—vertical-vertical, vertical-horizontal, horizontal-vertical, and horizontal-horizontal. Radiometer measurements were also taken at horizontal and/or vertical receiver polarization.

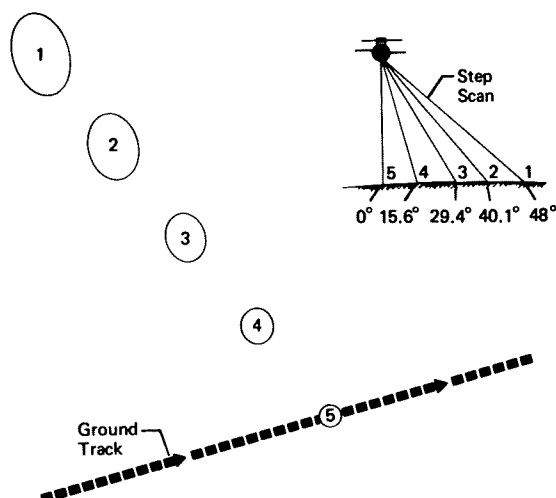


Figure 17 shows the cross-track noncontiguous coverage for a left scan. The method of operation was similar to that for in-track coverage, but three scanning modes were available—left, right, and left and right.

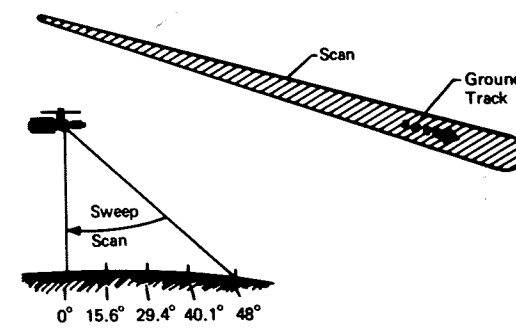


Figure 18 shows the in-track contiguous coverage. The antenna scanned continuously from about 48 degrees ahead of the spacecraft to the nadir. The scattering cross-section was measured over 1.6-degree widths near 48, 40, 29, 16, and 0 degrees while the antenna scanned smoothly. Radiometer data were taken during the rest of the scan. Only one of the four polarization options were used.

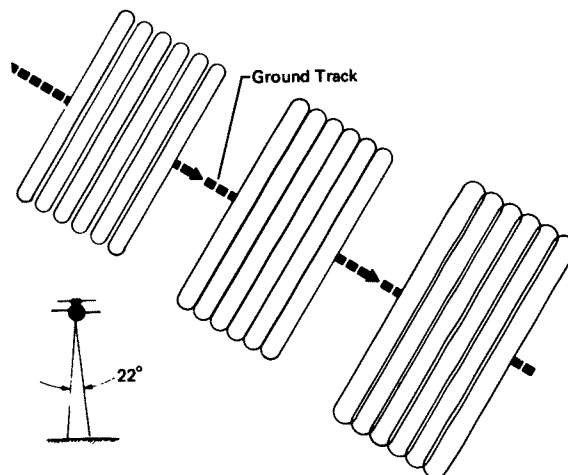


Figure 19 shows the cross-track contiguous coverage, for which three operating modes were available—radiometer and scatterometer with one selected in-phase polarization pair, radiometer only with both polarizations, and scatterometer only with both in-phase polarizations. In all modes, a continuous lateral sweep of about 22 degrees was centered on the ground track or on one of two angles to the right or left—15.6 and 29.4 degrees. The antenna could also be pointed 15.6, 29.5, or 40.1 degrees ahead of the nadir. Measurements were taken every 1.9 degrees of beam center movement.

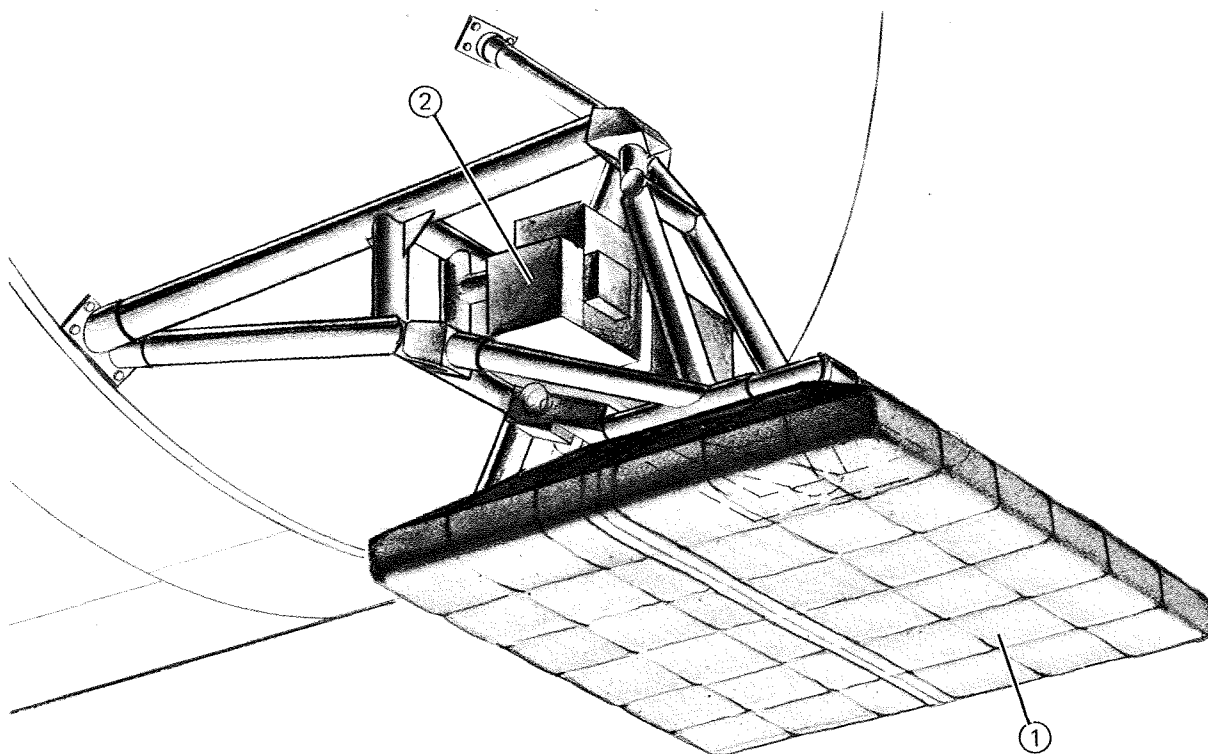
The altimeter was a compressed-pulse radar system that operated at a frequency of 13.9 gigahertz. It could measure average ocean-surface elevation variations with a resolution of about 1 yard (0.9 meter).

Data from the microwave radiometer and scatterometer consist of computer-compatible tapes of raw and processed data, including radiometer antenna temperature and scatterometer backscattering coefficients correlated with Greenwich Mean Time. Computer-compatible tapes of altimeter raw and processed data include a time history of automatic gain-control power, range measurements, and return-pulse shape information correlated with Greenwich Mean Time. Ancillary infor-

mation includes tape format description, sensor data-acquisition characteristics like center of sensor field of view, and spacecraft attitude and velocity.

L-band Radiometer

This sensor used a fixed antenna (Figure 20) with a 15-degree half-power beamwidth that provided a circular field of view of approximately 154 nautical miles (285 kilometers). However, the greatest influence on the recording came from the material in an area 67 nautical miles (124 kilometers) in diameter centered on the nadir, as shown in Figure 21.



- 1. Antenna
- 2. Electronics Assembly

Figure 20 L-Band Radiometer

The passive nonimaging radiometer operated in the wavelength band from 1.4 to 1.427 gigahertz and sampled received energy at a rate that ensured 97 percent ground coverage overlap. Data were pulse-code modulated and recorded on magnetic tape.

Data from the radiometer consist of computer-compatible tapes of both raw and processed data. The latter include antenna temperature correlated with Greenwich Mean Time. Ancillary information includes tape format description, sensor data-acquisition characteristics, and spacecraft position, attitude, and location of sensor field of view.

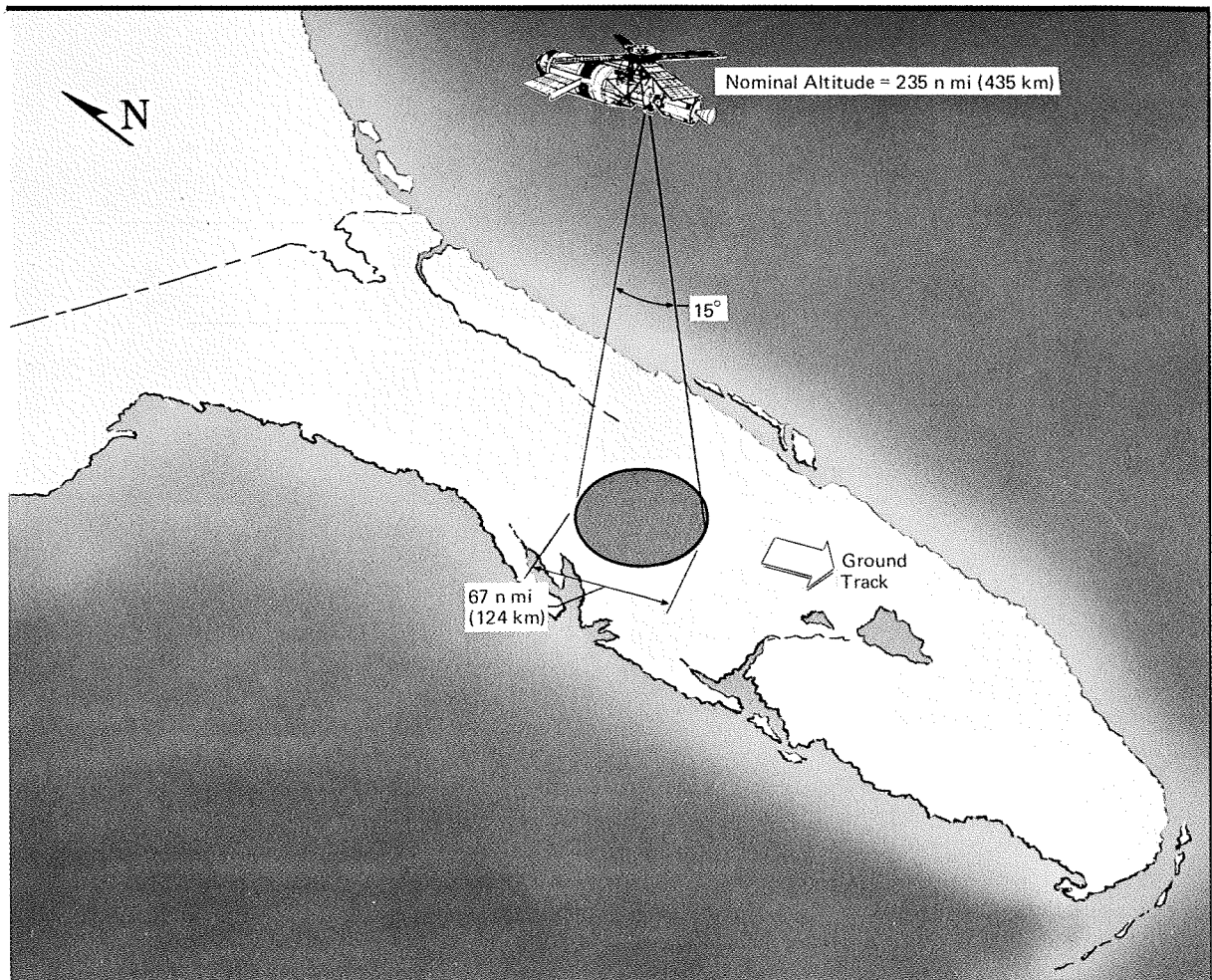


Figure 21 shows the ground coverage of the L-band radiometer at approximately the same scale as the Florida peninsula.

II. REMOTE SENSING

A manager or decision maker must have information from which he can draw conclusions and make his decisions. Information is derived from the various bits and pieces of data. It is obvious that all the pieces of data that go into the multifaceted product called information could not and should not come from a single source. Many sources should be consulted and their data weighed, one source against the other, to ensure that the conclusions drawn are based on reliable information from the full range of available sources, be it in the library, in the field, or in a collection of remotely sensed data. Therefore, remote-sensor output is not used by itself to generate information—it is only one of several data sources.

Any data collection system must be matched to information needs, which span the range from detailed and frequent to coarse and occasional, depending on the needs of the decision-making process. For example, agriculture, range management, and forestry are all concerned with vegetation. Yet the time scale and detail of information as well as the urgency of taking action are different to managers in each of these three areas. Similarly, the meteorologist and geologist may take different views of the timeliness of information. These points must be kept in mind when evaluating the application and utility of any data-gathering system.

To assess Earth Resources Experiment Package (EREP) data for applicability to any discipline, we must therefore look at the requirements of the discipline as well as the

peculiarities of EREP data. On one hand, the EREP data base is static, it does not renew or update itself. On the other hand, it has exceptional resolution and variety that can provide information not extractable from other sources. Furthermore, it does represent data taken during three different seasons—June 1973, August and September 1973, and November 1973 through January 1974. In this chapter, we will discuss a number of aspects of remote sensing as they relate to the application of EREP data to the management of earth resources.

Data gathering from satellites has brought a new emphasis to remote sensing. Even for conventional sensors like photographic cameras, the scope of the data differs from that of conventional aerial photography. The new dimensions of coverage, repetitiveness, and accessibility are so different that the information-handling and resource-management processes themselves are influenced by the capabilities of remote sensing. Many of the resource manager's conventional tools will inevitably disappear, and new tools and data products will emerge as they are made possible by the developing technology. One of the pitfalls of modern remote sensing and associated data-handling capabilities is that some people automatically assume that conventional data products, appropriate to a different era, still must be produced by the new system.

In reality, the peculiar capabilities of satellite remote sensing must be the driving force to shape management processes to fit the data

base. Admittedly, a transition period is required. During this period, satellite data will be used in conventional ways—for example, with a strong emphasis on visual photointerpretation. Digital data processing is making enormous strides in conjunction with specialized sensors like electromechanical scanners, which can conveniently provide data in digital form. Specialized instruments are being developed for direct measurement of variables as different as sea state and ground moisture. As a matter of fact, parameters for which practical uses are as yet unknown can now be measured. In this book, the emphasis is on conventional data that can be used without extensive investments in specialized equipment and skills. For consideration of future uses, we will also describe some of the equipment and data products that may be beyond immediate practical use.

The main characteristic of satellite data gathering is the excellent synoptic coverage of large areas. This valuable overview at one instant in time is usually obtained at the expense of spatial resolution, but it allows us to identify areas of similar characteristics like color, tone, or texture. These areas can be rapidly delineated and associated. An identification, if not possible in one step, can then be performed through multistage sampling using higher-resolution aerial photographs and ground truth. Also, EREP remote sensing equipment had good spectral resolution, and modern interpretation methods for remotely sensed data are capable of retaining high data content by substituting spectral resolution for spatial resolution.

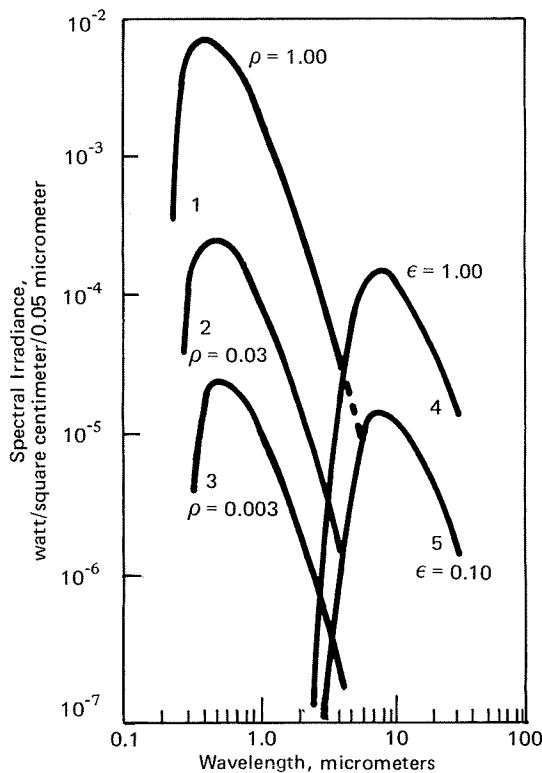
Because some data users may be unfamiliar with the spectral characteristics of natural scenes, the next section provides an overview of this topic.

SPECTRAL CHARACTERISTICS

Remote sensing depends on receiving energy that is either reflected or emitted by the object or scene being viewed. The basic source of reflected energy is of course the sun, and the source of emitted energy is radiation due to thermal agitation. Figure 22 depicts typical distributions of reflected and radiated energy as functions of wavelength. The wavelengths of reflected energy used for remote sensing range generally from 0.4 to 3 micrometers, whereas the self-radiated or emitted energy for earthly objects generally predominates above 3 micrometers. Note particularly that, under usual daytime conditions, only the region above 3 micrometers gives any indication of the temperature of objects. At visible and near-infrared wavelengths, self-radiation from objects at reasonable earth temperatures is negligible compared to daytime reflected energy. The region of radiated energy will be discussed later.

For optical sensors (i.e., photographic cameras and multispectral scanners), the energy received by the sensor at wavelengths below 2 to 3 micrometers depends on the energy reflected by the object seen, modified by the atmosphere through which the energy is transmitted, plus any stray energy reflected into the sensor from the atmosphere. In turn, the energy reflected by the object is determined by the energy incident on it, multiplied by its reflectance, plus any background energy transmitted through it.

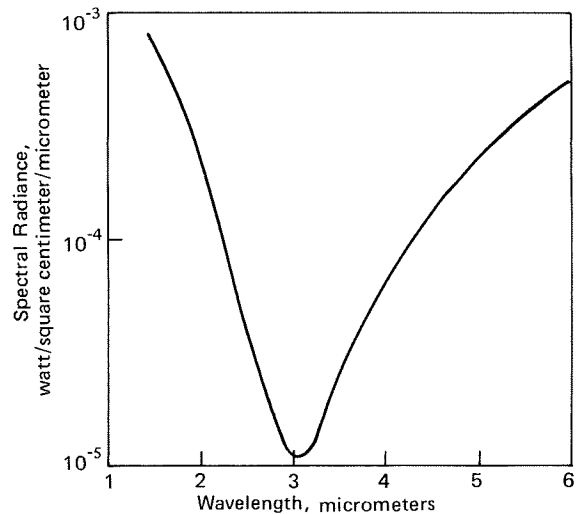
Although the amount and spectral distribution of the energy radiated by the sun is relatively constant, the amount reaching an object is greatly modified by the atmosphere, and therefore depends on the composition and state of the atmosphere as well as the sun angle. Similarly, energy received by the sensor is affected by the atmosphere and the viewing angle. Finally, the energy reflected from, transmitted through, and absorbed by the object depends on its reflectivity, transmissivity, and absorptivity. These are all wavelength-dependent properties that are significantly affected by the varying spatial and



a.

Figure 22a shows reflected sunlight for various values of reflection coefficient (1, 2, and 3).^{*} The curves assume that the sun is at the zenith and that the reflecting object has a reflection coefficient that does not vary with wavelength. Radiated thermal energy for various emissivities is shown by 4 and 5. It is

physical conditions of the object, which is usually a compound natural scene rather than a single object. Figure 23 illustrates the situation. Because of this complexity, identification of natural scenes based on spectral properties lacks the exactness of atomic spectroscopy. An understanding of basic spectral properties is nevertheless important because it provides useful clues to trends and differences and is essential to the correct interpretation of data. Therefore, we will briefly review some transfer properties of the atmosphere and reflection properties of a few common objects.



b.

assumed that the radiating body is at a temperature of 300 degrees Kelvin (27 degrees Celsius) and that its emissivity does not vary with wavelength. Note that in a daylight environment the reflected energy dominates below 2 or 3 micrometers, and the thermally emitted energy dominates above 3 or 4 micrometers. Figure 22b shows an actual example of measured radiance from a concrete surface on a sunny day.[†]

^{*} *Remote Sensing* (Washington, D. C.: National Academy of Sciences, 1970) p 129.

[†] Adapted from *Handbook of Military Infrared Technology* (Washington, D. C.: Office of Naval Research, Department of the Navy, 1965) p 156.

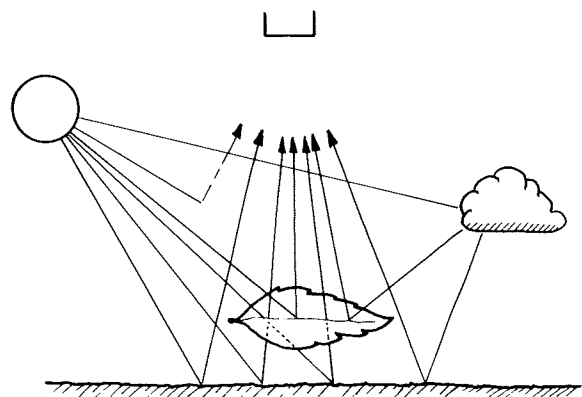


Figure 23 shows some of the possible paths by which radiation from the sun can enter the sensor—direct scattered and background light, direct reflected and diffuse reflected light from object and background, as well as singly and doubly transmitted-reflected light. Multiple reflections, haze absorption, and specific directional effects are not shown.

Incident Light

The visible region of the spectrum extends from about 0.400 to 0.750 micrometer. The sensation of color is subjective. There is no accepted standard for associating color and wavelength. The following approximate values of color bands in terms of wavelength can be used:

Color	Wavelength, micrometer
violet	0.38 — 0.43
indigo	0.43 — 0.46
blue	0.46 — 0.49
green	0.49 — 0.55
yellow	0.55 — 0.59
orange	0.59 — 0.65
red	0.65 — 0.76

Near-infrared will designate the range from approximately 0.7 to 3 micrometers and thermal infrared the region above 3 micrometers.

Solar energy impinging on the ground is generally distributed as shown in Figure 24. The word *generally* should be emphasized because there can be great variations, in addition to the general trends shown in the figure.

As the sun gets lower in the sky, less total radiation reaches the ground because of additional attenuation in the greater air mass that must be traversed. There is also a relative enhancement toward the red, due to increased

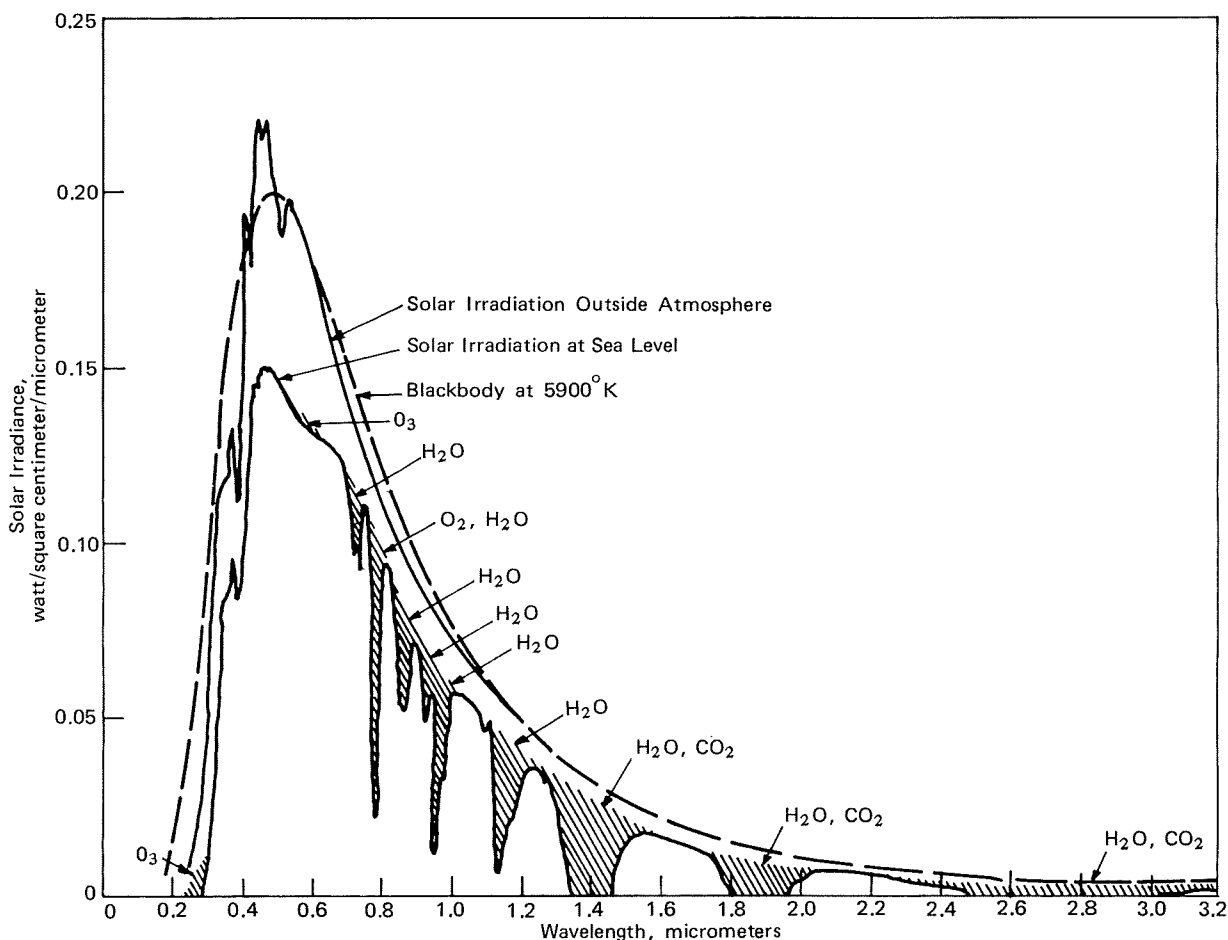


Figure 24 shows a typical spectrum of solar energy reaching the surface of the earth.* Absorptions caused by atmospheric constituents are indicated.

* *Handbook of Geophysics and Space Environments*, S. L. Valley, Ed. (New York: McGraw-Hill Book Company, Inc.) p 16-2.

scattering in the shorter wavelengths. Atmospheric constituents (dust, aerosols, chemical pollutants) can change the situation. For oblique incidence of solar radiation, there is also a geometrical effect because a given beam of light is spread over a greater area (the cosine effect).

The total incident solar radiation consists of a direct and a diffuse component. Sky light, the diffuse component, is usually a small percentage of the total incident radiation and is peaked toward the blue, due to atmospheric scattering. Figure 25 shows the sunlight incident on a horizontal surface under some representative conditions.

Reflected Light

Reflected light is the product of incident light and the reflectance of the object. The reflectance of "natural objects" is noted for its lack of constancy and consistency. Natural scenes (e.g., an agricultural field) are usually complex, composite scenes that have a variety of different aspect angles for both incident and reflected light. They also show great temporal changes—both short term (e.g. due to rainfall) and long term (e.g. due to seasonal effects), with respect to the physiology of the vegetation as well as the percentage of exposed ground cover. Nevertheless, it is useful to look at some specific spectral reflectance, transmission, and absorption characteristics of selected items under controlled laboratory conditions.

The properties of water are particularly important because of the role it plays in both the animate and inanimate world. Reflection from bodies of water is a complex phenomenon because of its dependence on angles of incidence and reflection, as well as surface, volume, and bottom conditions.

For most natural objects, the energy (at least in the visible spectrum) is reflected from the

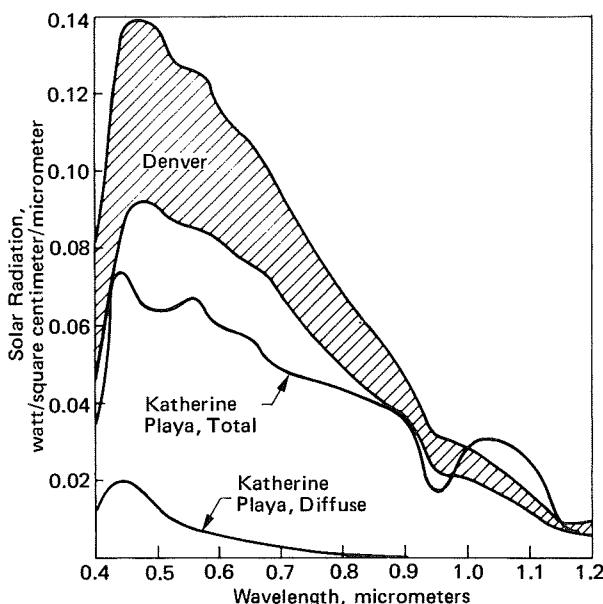


Figure 25 shows variations in solar incident radiation between 0940 and 1430 in the spring near Denver, Colorado (shaded). Because of the high altitude and dry air, only the absorption bands at 0.95 and 1.14 micrometers are evident. The curve for Katherine Playa, New Mexico, shows solar radiation for a typical clear winter day in a dry atmosphere. The sky light curve for Katherine Playa is typical for the diffuse part of the solar radiation.

first surface the light encounters. Water, on the other hand, is quite transparent in the blue and green wavelengths. Therefore, reflection occurs not only from the surface, but the reflected energy is reinforced by light re-emerging at the surface after scattering throughout the volume of water. Because the light penetrates clear water, there may also be a major reflection from the bottom in shallow water.

The reflectance of water is strongly affected by suspended sediments or organisms, and the reflected light can be used to study water quality,* as discussed in Chapters IV (page 87ff) and VII (page 161ff).

* James P. Scherz and John F. Van Domelen, "Lake Superior Water Quality near Duluth from Analysis of Aerial Photos and ERTS Imagery," *Remote Sensing and Water Resources Management*, Proc. No. 17 (Urbana, Illinois: American Water Resources Association, June 1973) p. 147ff.

Clear water usually reflects about 10 percent of the blue-green wavelength band. The reflectivity drops to about 5 percent at the red end of the visible range and 1 percent or less in near-infrared, when the absorption is very high.

Because most land features (vegetation and soils) have high reflectance in the near-infrared, it is clear that this end of the spectrum is best for delineation of land-water boundaries.

In the near-infrared, the energy is absorbed in the first few inches of water. Therefore, in this spectral region, suspended sediment usually has little effect on the reflectivity unless the material is concentrated near the surface. Algae bloom, a surface phenomenon, will strongly affect the near-infrared reflection, as shown in Figure 147, page 169.

For very clear fresh water or sea water, the transmission peaks at about 0.42 micrometer. But, as the water becomes mixed with sediments or organisms, the transmission peak shifts toward the red and is often in the 0.52- to 0.58-micrometer range for coastal waters.

For detection of underwater features and assessment of sediment loads, the 0.5- to 0.55-micrometer range (where incident energy also peaks) is often quite effective.

In the near-infrared range, water vapor absorption becomes important, and (as shown in Figure 26) there are a number of absorption bands of increasing strength toward the longer wavelengths. These bands show up strikingly in the reflectance curves of living plants. They also contribute to atmospheric absorption.

As expected, the spectra of living things are strongly influenced by physiological state. There is considerable commonality in leaf reflectance for various plant species. The general reflectance characteristics of a single leaf are shown in Figure 26. The spectral reflectance is high (40 to 50 percent) and fairly uniform in reflected infrared from approximately 0.8 to 1.3 micrometers, where

the water absorption band appears. Dry leaves have greater reflectance than leaves of higher water content. As the leaves turn in the fall (senescence), spectral reflectance in this region changes little, nor does the amount of chlorophyll or pigment have much effect in this nonvisible region. The depth of the water absorption bands depends on the water content of the plant, as shown in Figure 27.

Because a normal leaf has high transmittance in near-infrared (perhaps as much as 50 percent) the background plays an important

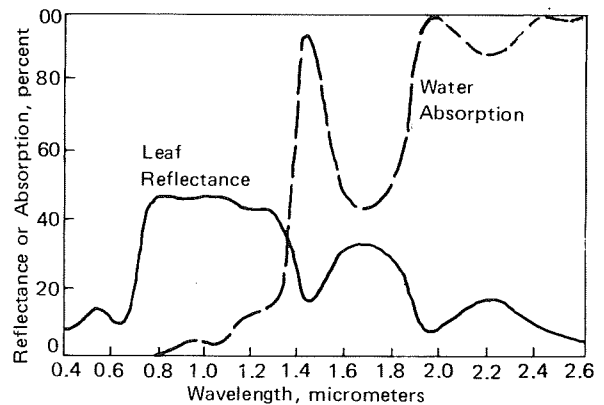


Figure 26 shows a typical curve of spectral reflectance for a single green leaf and a curve of water absorption.* Note how water absorption affects the leaf reflectance.

* Adapted from *Remote Sensing in Ecology*, Philip L. Johnson, Ed. (Athens, Georgia: University of Georgia Press, 1969).

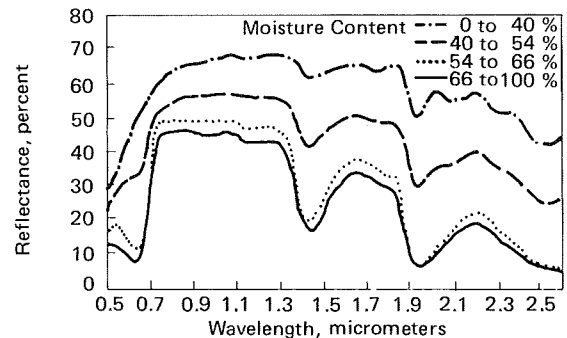


Figure 27 shows the effects of four different moisture-content levels on the reflectance of corn leaves.*

* Adapted from *Remote Sensing in Ecology*, Philip L. Johnson, Ed. (Athens, Georgia: University of Georgia Press, 1969).

part in total scene reflectance. Multiple-leaf reflectance is therefore much higher than single-leaf reflectance.*

In a given species, there can be pronounced differences in reflectance, particularly in the visible spectrum (0.38 to 0.72 micrometer) depending on pigmentation conditions caused by disease, water stress, and age. The latter involves early growth as well as senescence. Figures 28 and 29 show some examples. Between species, the difference is often evident at all wavelengths. For example, deciduous trees usually have larger reflectance than evergreens at all wavelengths.

* For example, see *Remote Sensing* (Washington, D. C.: National Academy of Sciences, 1970) p. 255.

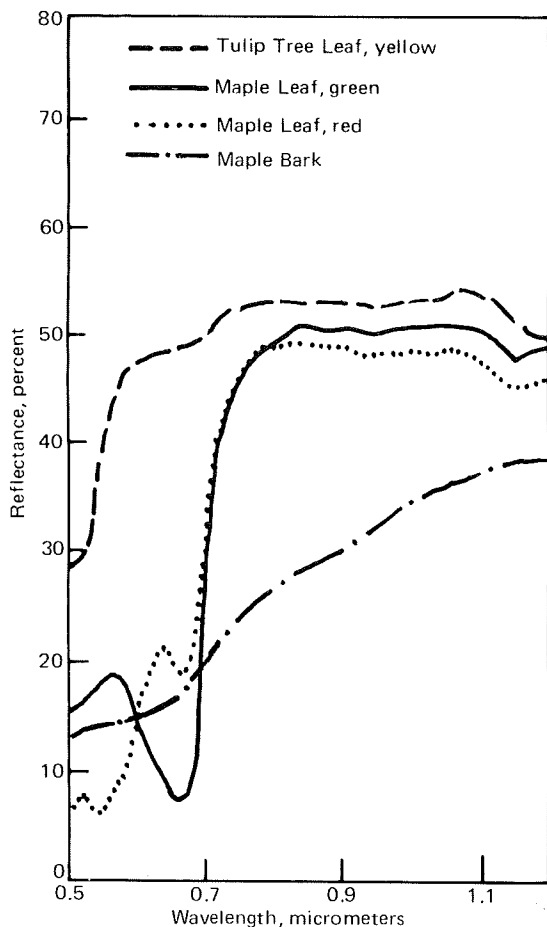


Figure 28 shows spectral reflectance related to visual color.* The spectrum of a green tulip-tree leaf differs little from that of the green maple leaf, except it reaches the 55-percent level in the infrared.

* Adapted from *Remote Sensing in Ecology*, Philip L. Johnson, Ed. (Athens, Georgia: University of Georgia Press, 1969).

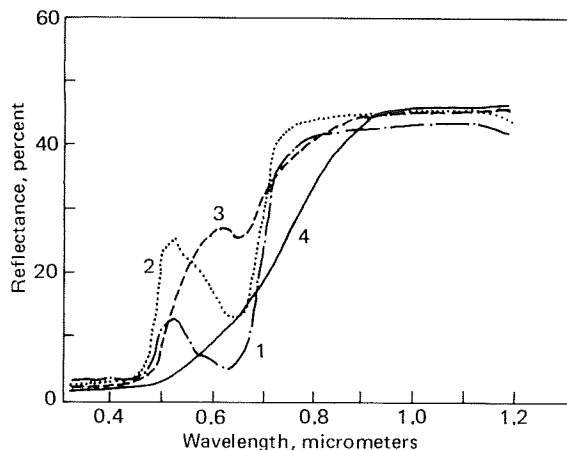


Figure 29 shows how the spectral characteristic of a healthy beech leaf (1) changes through the fall.* Curves 2 and 3 are early and intermediate stages of senescence and will appear as pink and yellow, respectively, in color infrared. Curve 4 is a dead, dry, brown leaf, which will appear dark orange in color infrared.

* Adapted from *Remote Sensing in Ecology*, Philip L. Johnson, Ed. (Athens, Georgia: University of Georgia Press, 1969).

It must be emphasized that the curves in a sense depict trends rather than absolute constant values of reflectance. For example, the range of values quoted for cotton when comparing a few references can vary by a factor of two in the green band (at 0.55 micrometer) and by almost 50 percent in the near-infrared. The wide range is accounted for by differences during growth, differences in species, and, undoubtedly, differences in measuring equipment and techniques.

Some examples of the reflectance of different types of soil are shown in Figure 30. The variety of soil reflectance is immediately obvious. It is also clear that to distinguish soil from vegetation at any one (and only one) wavelength is difficult. But, if observations are made in several wavelength bands, it can be accomplished. For all soil types, one major factor is the moisture content of the soil, which strongly affects reflectance over the entire spectral range. In near-infrared, wet soils of all types will usually appear darker than vegetation. Another view of spectral reflectance of natural objects is shown in Figure 31.

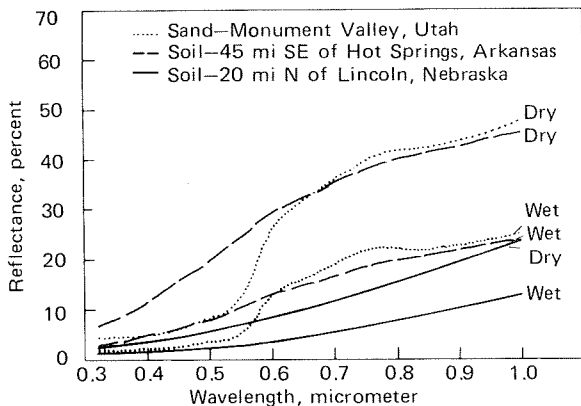


Figure 30 shows reflectance curves for dry and wet sands that are representative of about 250 samples taken across the United States.* The Hot Springs sample represents fine- to medium-grained alluvial sand and silt typical of the region shown in Figure 88, page 91. The Monument Valley sample is red sandy soil like that found in the area shown in Figure 118, page 128. The Lincoln, Nebraska, sample is typical of the Great Plains. It is fine- to moderate-grained sandy agricultural soil.

* Adapted from H. R. Condit, "Spectral Reflectance in American Soils," *Photogrammetric Engineering*, Vol XXXVI, No. 9, September 1970, p 955, with permission.

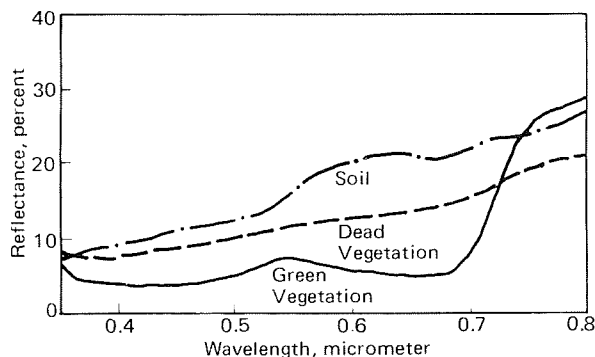
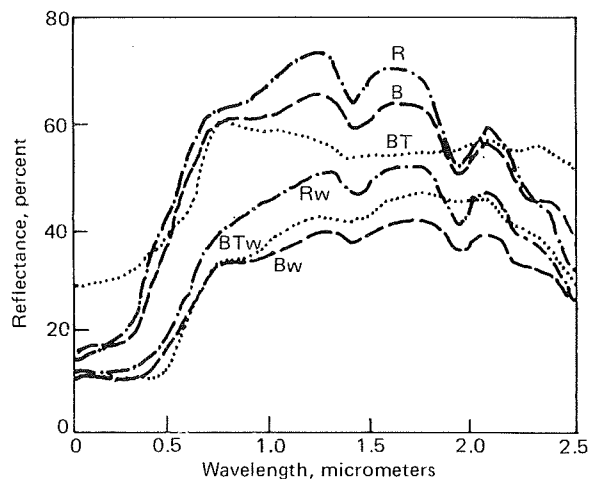


Figure 31 shows *in situ* spectral reflectance of important constituents that are comprised in a typical ¼-square-meter short-grass prairie plot.* The vegetation is blue grama grass (*Bouteloua gracilis*).

* Robert L. Pearson and Lee D. Miller, "Remote Mapping of Standing Crop Biomass for Estimation of the Productivity of the Shortgrass Prairie, Pawnee National Grasslands, Colorado," *Proceedings of the Eighth International Symposium on Remote Sensing of Environment*, Vol II (Ann Arbor, Michigan: University of Michigan, 1972) p 1362.

Some rock spectra are shown in Figure 32. The spectra of natural rocks are strongly influenced by the state of the rock surface.



Legend

Rw & R	=	Rhyolite (Tertiary), weathered & unweathered
Bw & B	=	Altered basalt (Quaternary), weathered & unweathered
BTw & BT	=	Bishop Tuff (crystallithic, rhyolite tuff), weathered & unweathered

Figure 32 shows the reflectance of various types of rocks.* The dips in the 1.4- and 1.9-micrometer regions may be due to residual CO₂ and H₂O vapor in the equipment. The samples used were from Long Valley, California.

* R. J. P. Lyon, "Multiband Approach to Geological Mapping from Orbiting Satellites," *Remote Sensing of Environment*, Vol I, No. 4, December 1970 (New York: American Elsevier Publishing Co., Inc., 1970) p 237ff.

It should be kept in mind that all the curves shown are for single-object spectral reflectance, i.e., the ratio of reflected light in a narrow band to the incident light in the same narrow band. To assess the actual reflected energy reaching the sensor, we must consider the nature of the illuminating source and the transmission characteristics of the atmosphere.

When viewing a "natural scene," it must also be emphasized that what the sensor "sees" is a composite. For example, any vegetation may be completely masked by the soil background, and pure leaf reflectance is modified

by the fact that some leaves are seen edge-wise—some are in shadow, and many are in different stages of development. The density of the vegetation canopy will also vary, i.e., some leaves are backed by other leaves—a fact that affects the total reflectance. Figure 33 illustrates the differences between laboratory and field measurements. Another source of discrepancy between laboratory and field spectra is the effect of surface contamination.

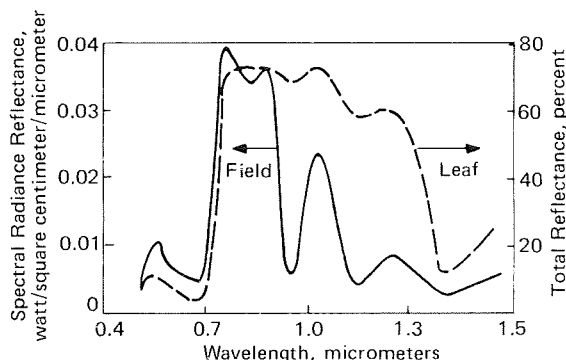
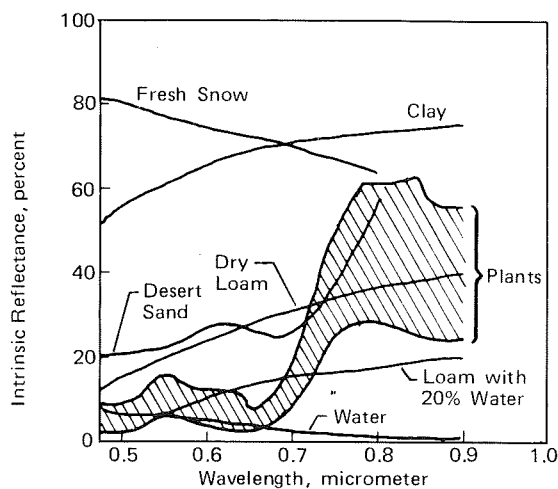


Figure 33 compares reflected energy from a cotton field, measured with a spectroradiometer, and total reflectance from a cotton leaf, measured with a laboratory spectrophotometer.*

* *Remote Sensing* (Washington, D. C.: National Academy of Sciences, 1970) p 263.



a.

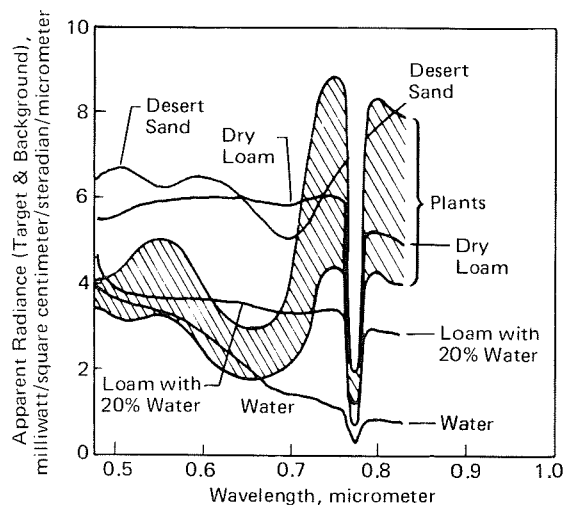
Figure 34 shows how spectral reflectance measured in the laboratory (Figure 34a) transforms into radiance as measured by a spaceborne sensor (Figure 34b).* The laboratory spectra are changed, as shown, by the nature of the illuminating source—the sun—

Received Light

The energy reaching the sensor consists of two parts—that reflected from the object or scene, and that scattered from the atmosphere into the sensor. Light actually reflected from the scene is of course modified by the nature of the light source and the transmission characteristic of the atmosphere, both with respect to total energy and the spectral distribution, as previously pointed out.

Figure 34 shows how the radiance reaching space is spectrally different from the intrinsic reflectance of various objects.

The main effect of stray light scattered into the sensor is to change the contrast in the scene. Many ground scenes exhibit high contrast between various parts when viewed at close range. The effect of the atmosphere is to greatly reduce this contrast—like viewing a picture through translucent vellum. Therefore, most aerial and space photographs tend to be low contrast and are often characterized by general atmospheric effects like the bluish tint in a maritime climate.



b.

and by the two-way passage of the energy through the atmosphere.

* Adapted from O. Weinstein et al, "Simulation of ERTS RBV Imagery," *Proceedings of the Seventh International Symposium on Remote Sensing* (Ann Arbor, Michigan: University of Michigan, 1971) p 1181.

One undesirable effect of reduced contrast is that it decreases the resolution of the picture. Resolution is generally the ability to separate (and presumably better recognize) objects that are close together. For interpretations that depend on spatial recognition, high resolution is essential. However, much current space photography is based on supplementing spatial with spectral and temporal information. Therefore, spatial resolution is not so important in many applications.

Films

It is well known that a black-and-white photograph is made up of density variations caused by the difference in energy impinging on the film from various objects during the exposure. In panchromatic film, the total energy integrated over the visible spectrum is significant. In exposures using a filter, the energy in the bandpass of the filter is significant, and in narrowband photography (or in reconstitution of images from a scanner), one approaches a spectral-band presentation.

In regular color photographs, one gets a rendition similar to that perceived by the eye, which creates colors based on spectral intensities. It is possible to associate color with each spectral band in a manner that differs from that perceived by the eye. When this is done, we call it false color. It can be very effective in highlighting subtle differences in spectral response or tonal differences, as discussed below. It is also possible to get filters and film that respond to energy outside the band to which the eye is sensitive. In aerial or space photography, we often extend the response into the near-infrared. (Extension into the ultraviolet is feasible, but not practical, because the atmosphere is highly absorptive in this region.)

An important type of film of increasing use in remote sensing is the so-called color-infrared or infrared false-color film. Because this film is not as familiar to many people as other films, we will describe some of its properties.

Color-infrared film, like most regular color films, has three sensitive layers. However, the sensitive region of each layer has been shifted upwards in wavelength compared to that of the color film, so that the yellow-forming layer is sensitive to the 0.5- to 0.6-micrometer, the magenta-forming layer to the 0.6- to 0.7-micrometer, and the cyan-forming layer to the 0.7- to 0.88-micrometer range, as shown in Figure 35.

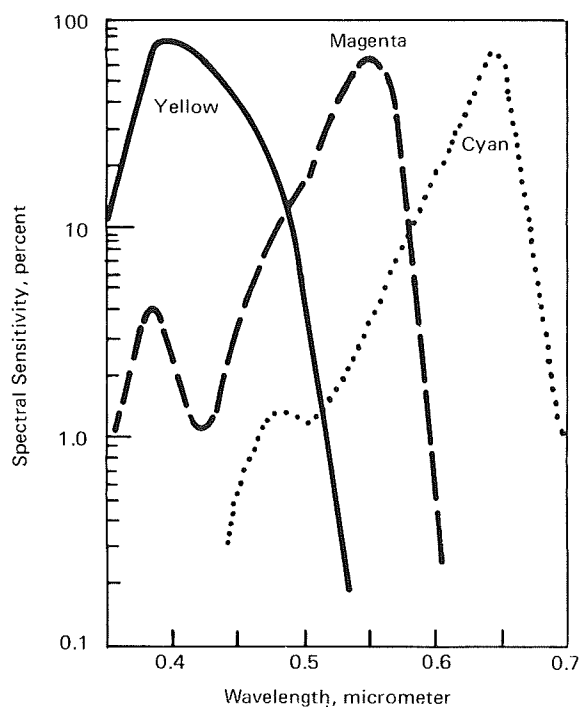
As in any color reversal film, energy in a certain band will make the color or dye associated with that band disappear, and the resulting color of the scene will be determined by the dyes in the unexposed or remaining bands. For example, color-infrared film exposed to only red radiation (0.6 to 0.7 micrometer) will have no magenta dye. When the transparency is viewed in white light, the apparent color will be determined by the yellow and cyan dyes that subtract out yellow and cyan from the spectrum and leave green. Similarly, a healthy green plant, with its high infrared reflectance, will remove the cyan layer, and some of the yellow (because of the green reflectance, see Figure 26, page 26), leaving much magenta with a little yellow. By the subtractive process, the resulting color will be red to orange. The same scene in regular color film would be determined by yellow and cyan (with magenta reduced because of the natural green of the scene), which subtractively combines to give green.

The color rendition of color-infrared film is obviously "false" in that it does not correspond to the colors of the scene as perceived by the eye. As mentioned, a scene of lush green vegetation shows up as bright red, possibly with background shades of gray from the even spectral reflectance of background soils and possibly bark.

Color-infrared film is very effective in agricultural applications because it often shows health and vigor of the vegetation. In cases of diseased vegetation, three things could happen. With certain diseases, the infrared reflectance of the leaves could actually diminish due to disease-induced changes in the

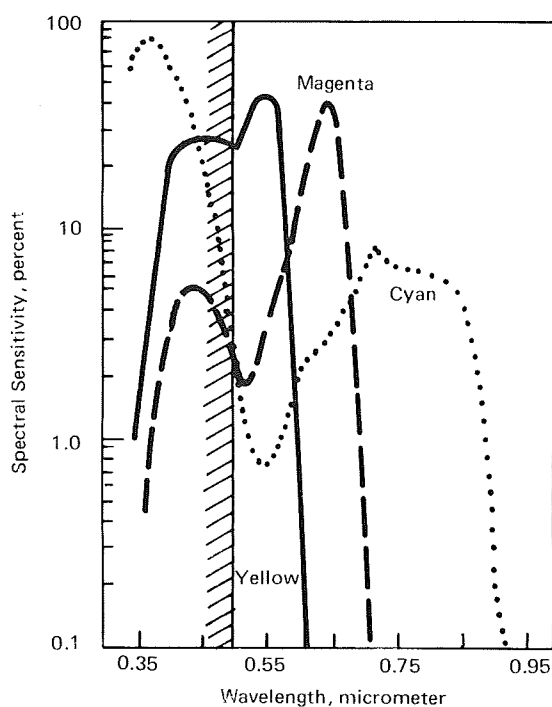
cellular structure. In this case, the tonal characteristics of the vegetation might change toward green in color-infrared film. Thus, the effect of the disease might show up earlier in the infrared spectral range than it would in the visible. This makes the infrared film a powerful tool for early disease detection, so

that timely remedial action can be taken. Such photographic evidence would manifest itself in black-and-white infrared film as well as in color-infrared. However, the visual effect may be more striking in the color-infrared and detection of the disease-induced stress can be made more easily.



a. Kodak Ektachrome

True color
Rendition on color film
Rendition on color-infrared film



b. Kodak Ektachrome Infrared

blue	green	red	infrared
blue	green	red	
blue	green	red	

Figure 35 shows the difference in spectral response between regular color film and color-infrared film used in Skylab. The relationship between the true color of the scene and the rendition on the film is

tabulated below the figure. A yellow filter (minus blue) is used with the color-infrared film to cut out light below 0.5 micrometer.

Disease, or a stress condition, might also manifest itself through changes in the visible range, e.g., changes in plant chlorophyll. Because the color-infrared film has two of its three bands sensitive to the visible range, it is obvious that an increase in the red band (0.6 to 0.7 micrometer) due to less chlorophyll absorption will cause a reduction of the magenta and therefore shift the tonal effect toward yellow, regardless of the presence of a strong near-infrared band (0.7 to 0.9 micrometer).

Another possibility is that the disease or water stress changes the physical condition of the vegetation (e.g., less growth, less dense canopy, hanging leaves), which exposes either more ground or more bark, and therefore changes the overall spectral characteristics of the composite scene.

The color-infrared film is a built-in color enhancement medium, and, as with all false-color enhancement, care must be taken in interpreting the results.

Radiated Energy

Any object at a temperature above absolute zero will radiate energy. The amount of energy radiated is proportional to the fourth power of the absolute temperature of the object and is also directly proportional to an inherent property of the object called the emissivity (which may be a function of wavelength). An object with an emissivity of 1 (at all wavelengths) is called a *blackbody*, which radiates energy with a frequency distribution shown in Figure 36 for a number of fixed temperatures. Most natural objects radiate like a "gray" body; that is, their emissivity is less than 1 and some have a frequency-dependent emissivity. For natural earth scenes, reflected energy (from sunlight) and

emitted energy will usually cross at 2 to 4 micrometers, as shown in Figure 22 (page 23). There is really not a specific cross-over point because reflected energy depends on reflectivity and the illuminating source, while emitted energy depends on emissivity and temperature, and all these vary from object to object. Although the radiated energy peaks at about 10 micrometers for temperatures about 300 degrees Kelvin, there is still sufficient energy radiated at microwave frequencies, in the centimeter and meter range, to be detected by the very sensitive detectors available for these frequencies. Because the energy emitted in the infrared above about 3 to 4 micrometers is an indication of the object's temperature, we call this region *thermal infrared*.

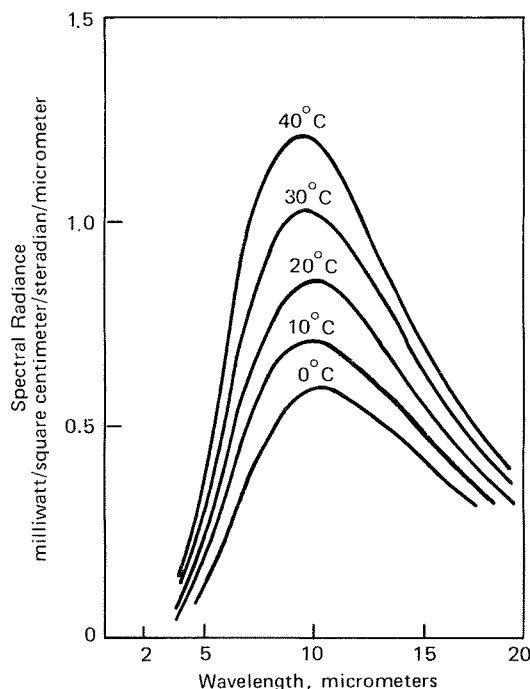


Figure 36 shows spectral radiance (emitted energy per unit area per unit solid angle per unit wavelength interval) as a function of wavelength for various temperatures.* Notice that the energy almost doubles as the temperature is raised from 10 to 40 degrees (Celsius). The peak of the energy is in the 10-micrometer range.

* *Handbook of Military Infrared Technology* (Washington, D. C.: Office of Naval Research, Department of the Navy, 1965) p 96.

Generally, there has been little indication that emission properties, or spectra, in the infrared are more characteristic and constant than reflection properties, or spectra, in the visible or near-infrared. An additional problem in infrared sensing is that the emitted energy is small, and the obtainable spectral resolution is therefore poor. Consequently, tonal differences in thermal-infrared imagery are usually a result of integrated energy over very broad bands. Typically, the thermal-infrared channel in the EREP multispectral scanner is 10.2 to 12.5 micrometers. The minimum temperature differential resulting in a detectable tonal contrast for a given object is about 0.5 or 2°C with this instrument, depending on the detector used.

The usefulness of the infrared spectral range to EREP sensors is not in its detailed spectral characteristics but in the ability to discern temperature differences. These differences are either of interest when presenting an image of a region at a given time, or they are of interest as temporal phenomena—for example, as nighttime versus daytime pictures. In the first case, differential heating due to different absorption or emission characteristics is used for interpretation. In the second case, heating and cooling rates due to different emission characteristics are used. An example of the use of thermal infrared imagery for the study of geothermal sources is shown in Figures 125 and 126 (page 136ff).

Atmospheric effects are also important in thermal infrared sensing, particularly for remote sensing from satellite altitudes. The atmospheric “windows” of high infrared transmission (between the absorption bands) are shown in Figure 37. Because the energy absorbed in a band must be reradiated, the atmosphere will appear “hot” in the regions of absorption. A discussion of this rather complex subject is outside the scope of this book, but the user of thermal infrared data should be sure he understands the physics involved. The single thermal channel in the EREP multispectral scanner (10.2 to 12.5 micrometers) is in a “window,” so atmospheric absorption effects are slight.

Water is essentially opaque above 3 micrometers, and any thermal radiation from it therefore originates in the upper fraction of a millimeter of the water surface. Because there can be a fairly steep temperature gradient in the water between the air-sea interface and the next few millimeters of depth, the sea temperature measured by other means can differ from the temperature measured radiometrically.

Spectral radiance (i.e., energy emitted) from some representative scenes is shown as a function of wavelength in Figure 38. The dip in certain sand and rock spectra at points from about 8.5 to 9.5 micrometers is caused by a resonance interaction with the crystal structure of minerals.

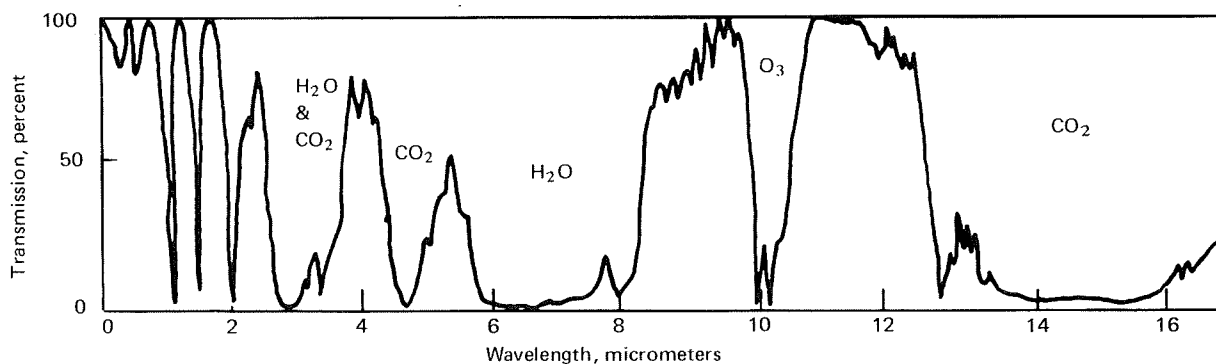


Figure 37 Atmospheric Transmission Characteristics

SPATIAL CHARACTERISTICS

Resolution, detectability, and recognizability are the most important characteristics that determine the information content, and hence the usefulness, of imagery for earth resources observations. None of these characteristics are directly related to the contact scale of the original image. Although the EREP cameras produce photos at a fairly small scale (See Chapter I, page 7 ff), through enlargements, the scale at which these pictures can be used is quite large. Figure 39 is an example. Chapter III (page 57ff) discusses the equivalent (enlarged) scales at which EREP images produce useful data.

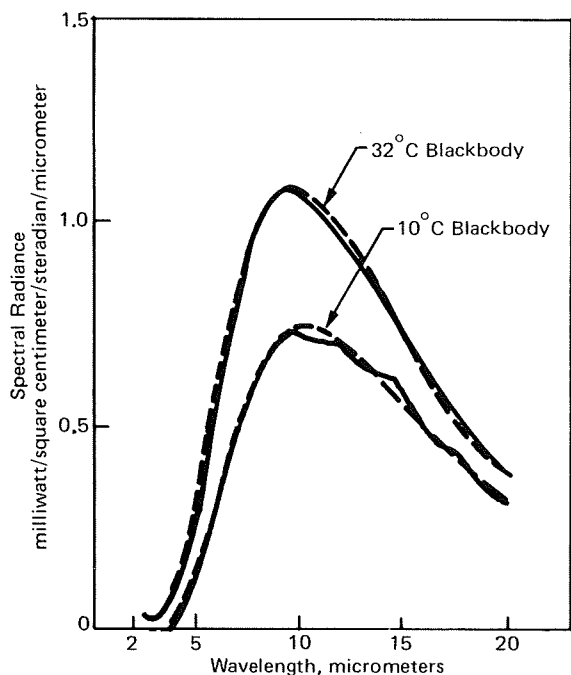
For a better understanding of the difference between detectability, resolution, and recognizability, the following definitions are helpful:

"Detectability is the ability of a system to detect the presence or absence of a signal. *Resolution* is the ability of a system to distinguish between signals that are close to each other spatially, temporally, or spectrally.

Recognizability is the ability of a system to recognize or identify a signal.

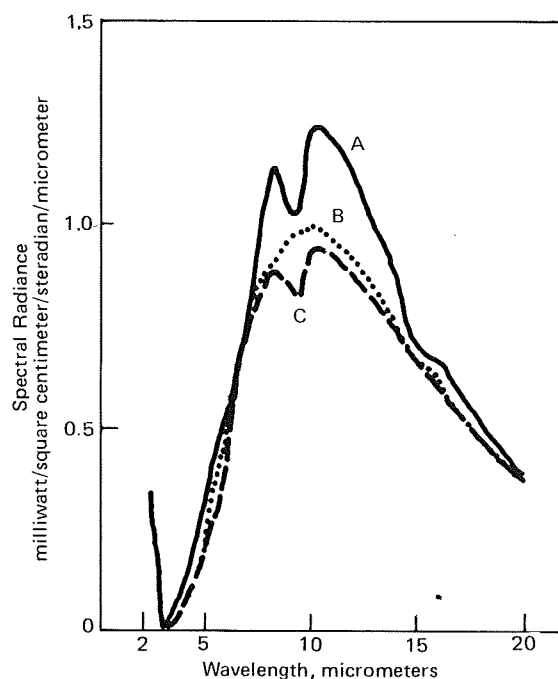
System here means the combination of a remote sensing system and a human observer or human photointerpreter. *Signal* here means an item of information in an image or other spatial pattern, or an item of spectral or temporal information."

Generally, it is important to understand that an image feature (i.e., signal) can be detected although it may be much smaller than



a.

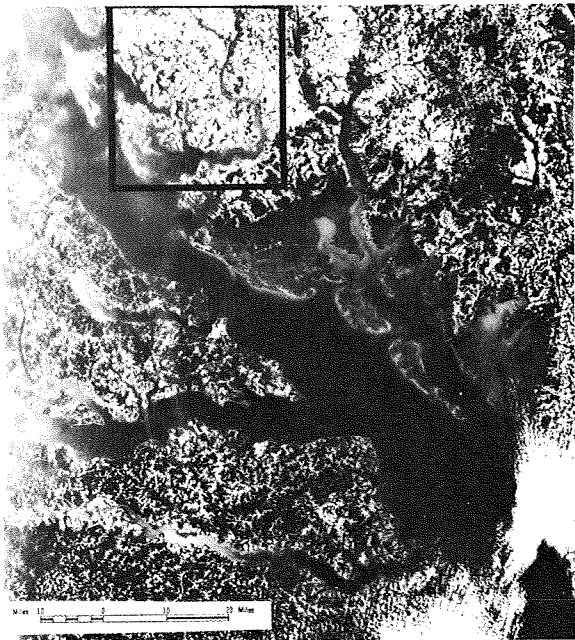
Figure 38a shows spectral radiance of a grass-covered field at night (10°C) and in sunlight (32°C) the following morning.* Figure 38b shows dry sand: A in sunlight, B on a cloudy night, and C on a clear night.* On the cloudy night, the dip at 9 micrometers is



b.

compensated for by increased cloud radiance. Heavy moisture in the sand will also wipe out the dip.

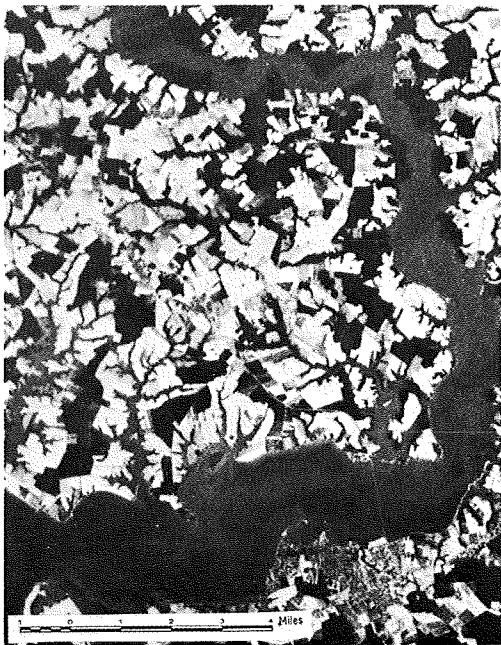
* *Handbook of Military Infrared Technology* (Washington, D. C.: Office of Naval Research, Department of the Navy, 1965) p 143.



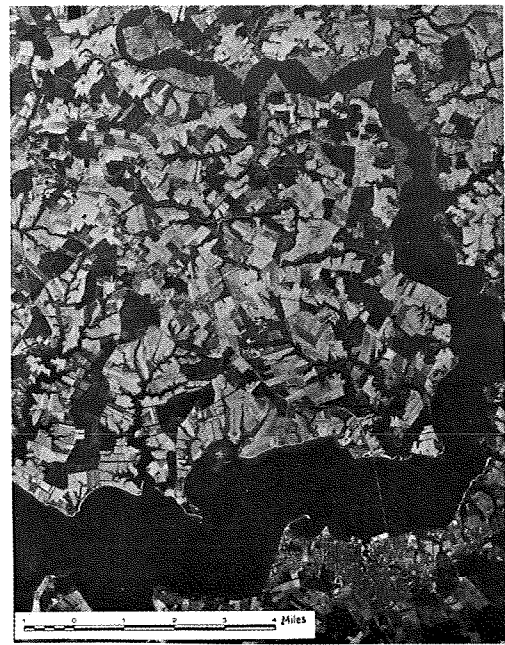
a. 0.6 to 0.7 micrometer, June 1973



b. 1:500,000 scale



c. 1:250,000 scale



d. Aircraft photo, December 1973

(Courtesy Earth Satellite Corporation, Washington, D. C.)

Figure 39 shows the flexibility and utility of multi-spectral camera photos for identification of land use categories. The original image (Figure 39a) of the Chesapeake Bay area was first enlarged to a scale of 1:500,000 (Figure 39b). This image was again enlarged to a scale of 1:250,000 (Figure 39c). Notice how evident the land use pattern is at this scale, and

how well it compares with the black-and-white print of the color-infrared photograph (Figure 39d) obtained from an RC-10 camera in an aircraft. The river is the Choptank and the city at the end of the bridge in the lower right corner is Cambridge, Maryland.

a resolution element. For example, a light-surfaced narrow road can be easily seen against a dark field background, just as a beacon can be seen on a dark night. Similarly, an object may not be recognized (or identified) even if it is much larger than a resolution element. Contrast against the background is again important, as are *a priori* knowledge and the total setting against which the object is seen.

When properly interpreted and expressed, resolution is the most basic of the three quantities. Figure 40 illustrates the degree to

which the high-resolution earth terrain camera photos can be enlarged.

With regard to resolution, it should be pointed out that the basic process of black-and-white and color half-tone printing in this book destroys the inherent resolution of the image. In an EREP photo, powerful magnification will provide far more information than the naked eye can extract. In the printed images in this book, a magnification of about 5X will show the dot pattern inherent in the half-tone printing process.



SL3-86-011

Figure 40 is a 40X enlargement of Sun City, Arizona, taken by the earth terrain camera. Other parts of this frame appear in Figure 61 on page 68.

INTERPRETATION AIDS

Several aids to interpretation of sensor data have been developed. They involve the conversion of the data, originally in the form of photographic images or tape recordings, into photographs or video displays in which certain features have been enhanced by exaggeration of density differences or are represented by colors or symbols unrelated to the color of the scene. These presentations are referred to as false color because they do not reflect the colors as normally perceived by the eye. Some presentations are enhanced to represent areas of the scene that have common factors, such as photographic density, scene reflectance, or temperature. Others use multiple spectral bands to identify and classify crop type, crop vigor, state of maturation, etc, by enhancement of spectral signatures. Density slicing, color composites, and digital plots are discussed briefly, and illustrations of typical scenes derived from these various methods are presented in this section.

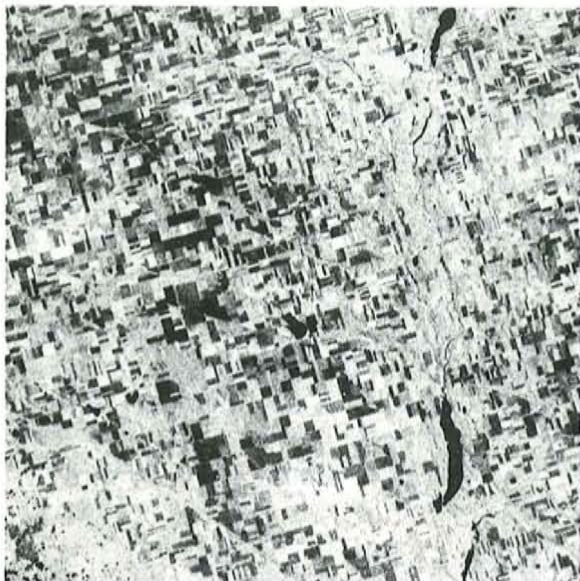
Density Slicing

Renditions of scenes in which colors have been substituted for density differences in the image are useful aids to the interpreter. An example of this process is the well-known practice of preparing a thermal-infrared image (in which the region of the spectrum has no effect on the eye, hence is free of color) by substituting various colors for different wavelength intervals. An image so prepared may represent cooler portions of the subject in blue, hotter portions in red, and the intermediate regions in other colors selected to best suit the viewer.

In such a false-color presentation, the intensities of the light collected by the imaging device, be it a camera or a single band of a multispectral scanner, are represented as different colors so that subtle changes in scene contrast are enhanced by starkly different colors. In the processing of film images by this approach, each picture element of the film is first analyzed to determine its opacity. Discrete levels of opacity, or transmission, are assigned a unique color, and the scene is regenerated in these colors. Although the description tends to imply a laborious process, investigators routinely make false-color renditions by using commercially available equipment, varying the scene colors and processing the scenes as quickly and easily as adjusting the controls of a conventional color television set.

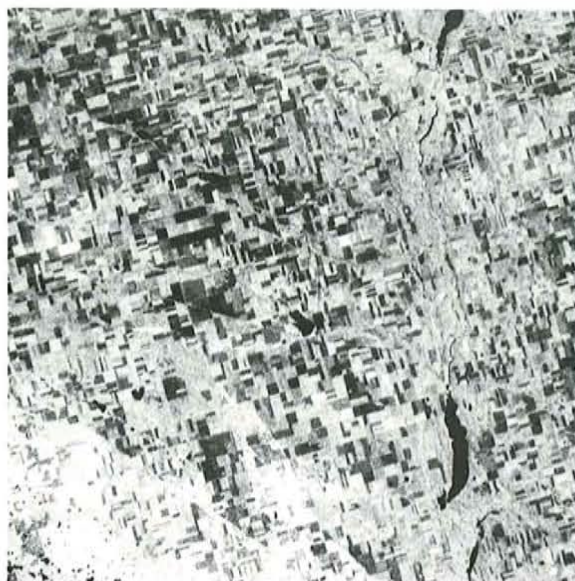
Equivalent multispectral scanner color renditions can be made with even less intermediate processing by simply using the output from one of the scanner data channels. As in the case of photographic data processing, the intensities or increments of intensity are represented by sharply contrasting color, which can be selected to suit the interpreter and enhance the image under study.

A false-color rendition based on density slicing is illustrated in Figure 41. The purpose of this enhancement was to display lakes in blue. Because the base used for density slicing was an infrared photo, which in itself has sharp contrasts between land and water boundaries, nothing startling was gained from this rendition. Note the effect, often present in enhancements based on density, of losing continuity along the drainage system, which includes Arrowwood Lake. Figure 83 (page 88) also illustrates the use of density slicing.



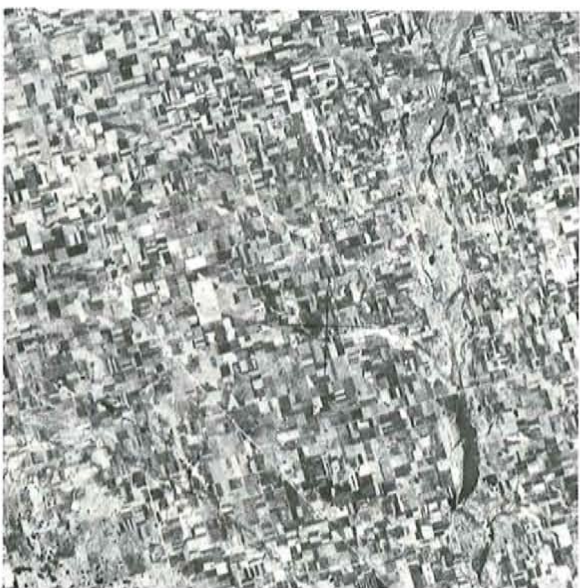
a. 0.7 to 0.8 micrometer

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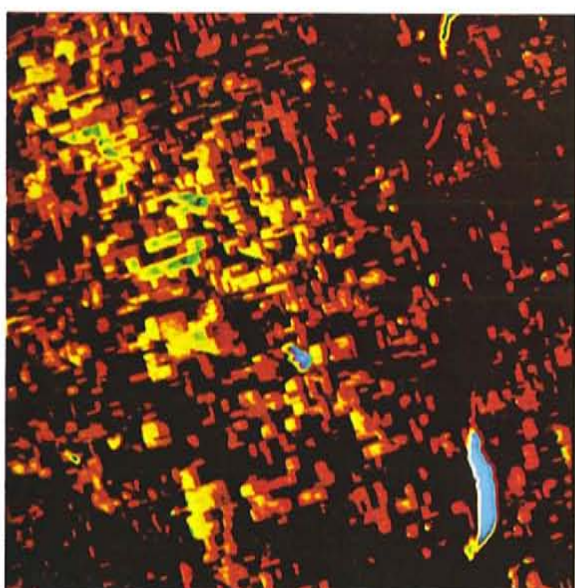
b. 0.8 to 0.9 micrometer

SL2-14-130



c. 0.6 to 0.7 micrometer

SL2-17-130



d.

Figure 41 shows part of a multispectral camera photo of North Dakota. Figures 41a, b, and c are from camera stations 1, 2, and 5. Figure 41d is a density-sliced reproduction of Figure 41b. The prominent body of water near the bottom of the picture is Arrowwood Lake, near Jamestown, North Dakota. Although the enhancing process has not made the lake more prominent than in Figure 41b, the density slicing has resulted in delineating the boundary of

Lake George, the smaller blue body near the center of Figure 41d, and differences in the scene brightness over the croplands have been enhanced. In Figure 41d, note that the southern end of Arrowwood Lake has a prominent yellow area that is more apparent than in the infrared, Figure 41b. Close examination of this more reflective region reveals a shallower pond that is not part of Arrowwood Lake.

Color Composites

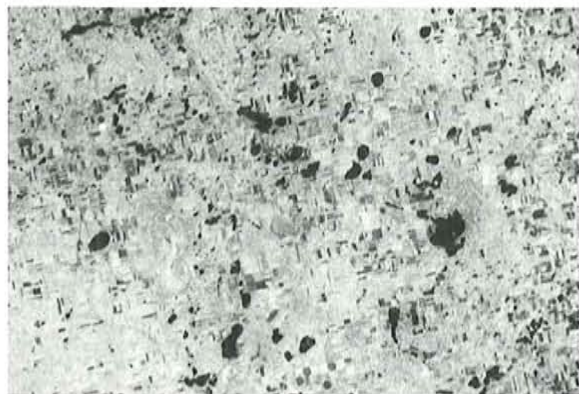
Other enhancement techniques have been developed by using multiple images of the same scene and assigning a different color to each image. The resulting presentation can be true or false color, depending on color assignment.

For photographic data, multiple images are obtained from an array of cameras. Each image is formed in black and white with light filtered from a different part of the spectrum. The transparencies are carefully mounted in close optical register and the images are projected using several colors of light. The scene can then be adjusted for illumination to enhance the visual impact of features under study, and the scene can be photographically rerecorded. Images highlighted to enhance features by additive composites of several wavebands are similar to false-color or color composites obtained from multispectral scanners. Figure 42 shows a reproduction using color composites. The differences between the various salt flats, dry lakes, and water-filled lakes are brought out in good detail.

Figure 43 also shows differences between vegetated land and lakes at various stages of dryness and depth with more detail than any of the original photographs.

The color (or false-color) composite is a particularly useful method of presenting data from a multispectral scanner. Akin to the additive color technique used with photographs, the color composite takes several wavelength bands from the multispectral scanner and represents each as a specific color whose intensity is proportional to the energy in that band. The rendition, either as a video or photographic image, is then available for interpretation. Figure 44 is an example of scanner data processed into a false-color image.

A more sophisticated approach, also using the color representation technique, involves processing of the intensities registered in several bands of the scanner. For example, densities from various bands can be added, subtracted, or ratioed in any number of ways before assignment of color and intensity. In this way, much of the interpretation process is carried out by the computational equipment ordinarily associated with this imagery production system. The computer can be programmed or "trained" to perform routine analyses, and several such programs are now used. Land use classifications obtained by such methods have been shown to be very accurate, and in some applications, highly selective (See Chapter III, page 74ff.)



a. 0.7 to 0.8 micrometer

SL2-13-130



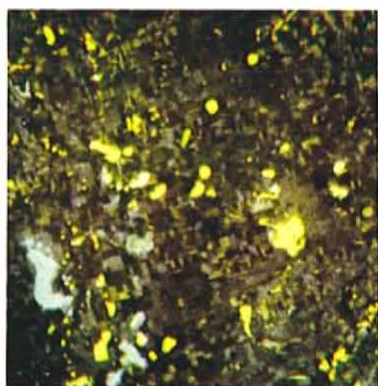
b. 0.8 to 0.9 micrometer

SL2-14-130

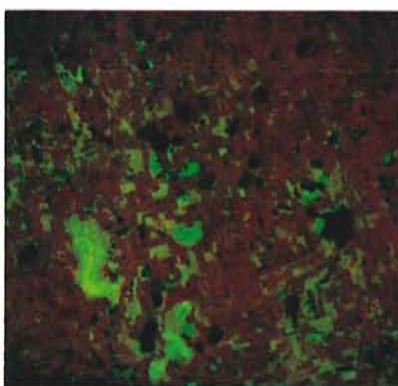


c. 0.6 to 0.7 micrometer

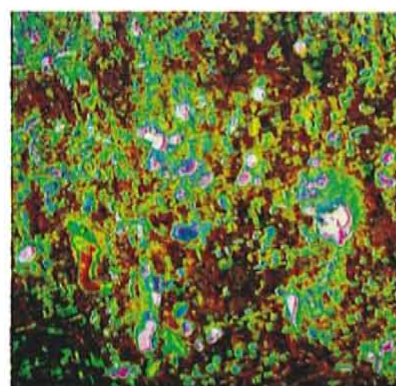
SL2-17-130



d.



e.



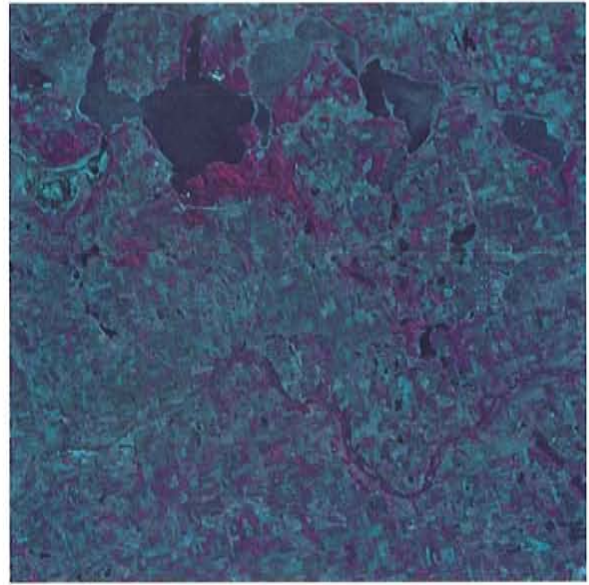
f.

Figure 42 shows another region near Jamestown, North Dakota, in the vicinity of Horsehead Lake. Figures 42a, b, and c are from multispectral camera stations 1, 2, and 5, respectively. The images were represented in shades of red, green, and blue and superimposed to yield Figure 42d, which represents the dark lakes (as seen in the infrared scenes) as yellow and dry Horsehead Lake as white. Figure 42e adds another dimension to the interpretive process by

electronic density slicing of the images used to form Figure 42d and adding the images to form a composite. In this figure, structural qualities that were less apparent in any of the previous figures are visible in the water and on the land. Figure 42f resulted from yet another assignment of colors to the density levels in the black-and-white images. This rendition, while somewhat confusing, reveals more detail in the differences of the bodies of water and the land.



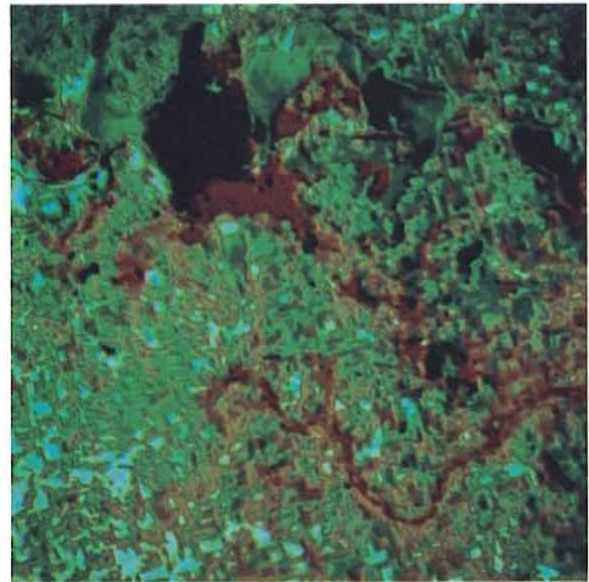
a. Station 2, 0.8 to 0.9 micrometer SL2-14-130



b. Station 3, color infrared SL2-15-130



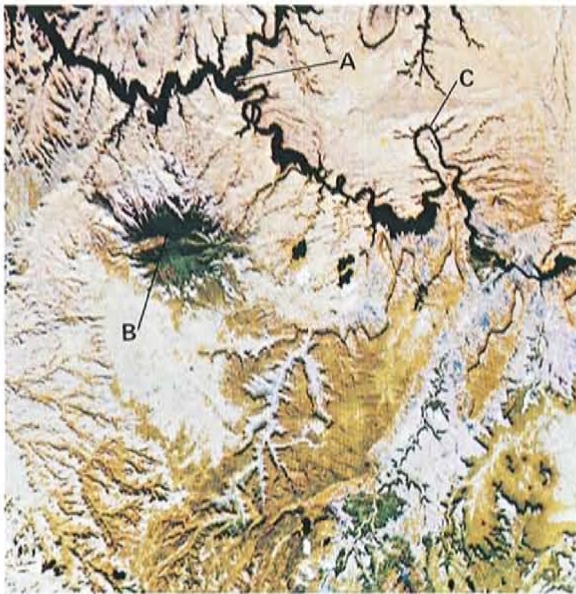
c. Station 5, 0.6 to 0.7 micrometer SL2-17-130



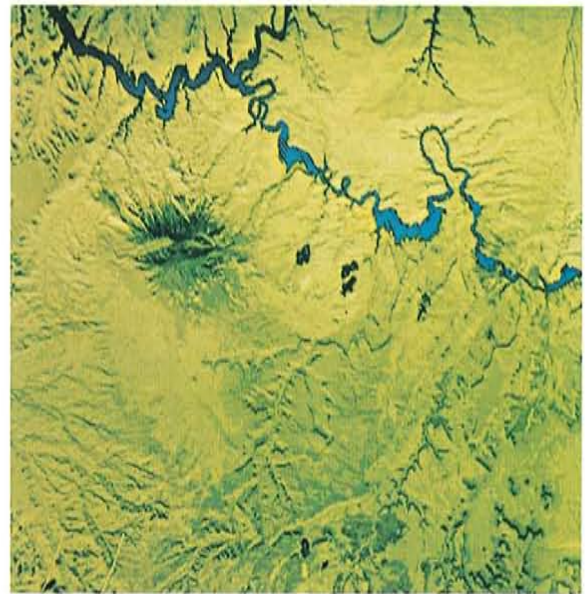
d.

Figure 43 is another illustration of a color composite. Devil's Lake and the Sheyenne River north of Jamestown, North Dakota, are shown as they appear in stations 2, 4, and 5 of the multispectral camera. The color composite, Figure 43d, was derived from stations 1 (not illustrated), 2, and 5. The technique used density variations of the visible red to enhance the vegetative processes along the lake and river, the

infrared to delineate the land-water boundaries, and the tonal variations of the visible band to show the patterns in the lake against the infrared. It can be seen that, although the color-infrared rendition differs in red, blue, and green content, many of the same features can be seen, but the composite greatly enhances the meandering Sheyenne River.



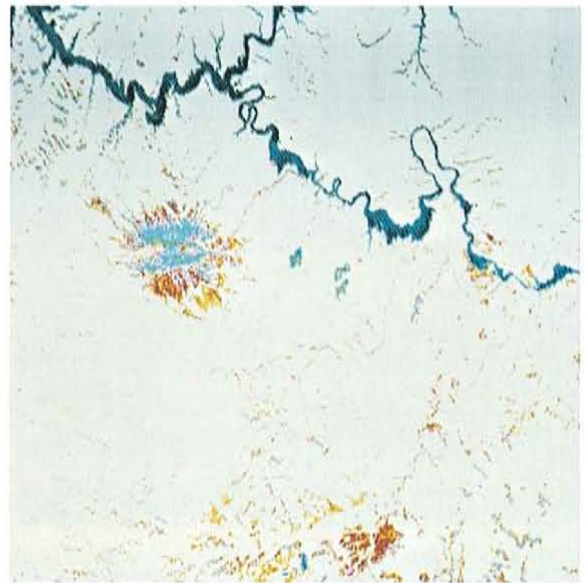
a. Band 2 (0.44 to 0.52 micrometers)
 Band 7 (0.75 to 0.90 micrometers)
 Band 11 (1.48 to 1.85 micrometers)



b. Band 11 (1.48 to 1.85 micrometers)



c. Band 11 (1.48 to 1.85 micrometers)



d. Density sliced from one band

Figure 44 shows color composites of multispectral scanner images of an area northeast of Lake Powell. The confluence of the San Juan and Colorado rivers is at A. The prominent landform at B is Navajo Mountain, and the Great Bend of the San Juan is at

C. This is a region of moderate to high relief, consisting primarily of sedimentary strata and characterized by numerous mesas and deeply dissected canyons. Note the quality of spatial and spectral detail in the scanner images.

Digital Plots

A representation of digital data can be made using computers that produce a two-dimensional array of digits or symbols. The symbols, like those on a typewriter, are printed by the computer to represent types of crops to show land use. In mapping like this, one has only to inspect the map to determine the type and extent of coverage of an area to determine the content. The digital plot is usually the product of a computer analysis program, and is usually based on digital data from a multispectral scanner.

This land-use recognition and classification can be performed for a large number of classes, depending on the availability of ground truth and other knowledge like information about local crop practices, planting, and harvest times. This information, combined with *a priori* knowledge of spectral characteristics of the various crops and land use features, is used to establish a statistical data base for each land use class. The remotely sensed data from each picture element (pixel) are then compared to the statistics for each land use class and assigned to the class giving the best fit.

A more refined technique consists of choosing a number of "training sets" of known ground conditions (e.g., a few samples of wheat fields, water, forest land, etc.) that are part of the region being remotely sensed. The actual data from these known areas are used to establish the spectral-signature statistical base to which the unknown areas are compared. In other words, the computer is "trained." This method is referred to as "supervised" classification, in contrast to the "unsupervised" classification using only *a priori* data. The success attained by the two methods varies greatly and depends on several factors.

A number of very sophisticated statistical and computational methods are used for automatic recognition. Figure 67 (page 74) is an example of such a computer-generated digital plot.

SUMMARY

The preceding discussion of the physical aspects of remote sensing has concerned itself mainly with the interpretation and usefulness of multispectral photographic and scanner data.

Multispectral photographic and scanner spectral bands can provide a variety of spectral signature characteristics that are useful for identifying key terrain, vegetation, and land use features. Obviously, not all EREP photographic or scanner bands are equally useful or necessary to satisfy specific target recognition requirements. One objective of the EREP program was to determine which spectral combinations and individual wavelength bands are best suited to specific earth resources applications.

A preliminary analysis of the capabilities of the individual multispectral scanner channels, based in part on published investigations that used discrete wavelengths similar to those of the scanner, indicates that some channels are more useful than others in detecting and defining key natural and cultural phenomena. Table 5 lists potential uses of each multispectral scanner band for target feature recognition. Table 6 summarizes the best scanner spectral combinations for specific earth resources survey applications determined from Table 5. As can be seen, five to seven spectral channels are adequate for many applications listed. For example, wavelengths that are most useful in land resource management surveys include the visible and near-infrared bands (4 through 8), and in several instances, the thermal-infrared band (13). In addition to these, water and marine resource surveys can use "blue bands" 1 and 2 to enhance selected target and background discrimination in water areas. The consistent grouping of primary and secondary spectral needs among the various applications is evident (with the possible exception of water and marine resources). Similar considerations apply to the various photographic bands.

Table 5. Potential Uses of Multispectral Scanner Spectral Bands for Earth Resources Surveys

Band	Wavelength, micrometers	Utility	Disciplines
1 2	0.41-0.45 0.44-0.52	Penetration in water & shaded areas; atmospheric studies	Marine & ocean surveys Environment
3 4	0.49-0.56 0.53-0.61	Plant species identification & vigor; detection of snow cover, waste disposal in coastal waters, penetration, turbidity, sea-ice features, soil contrasts; chlorophyll & plankton mapping	Marine & ocean surveys Agriculture, forestry, range Water resources Environment Land resource management
5	0.59-0.67	Differentiation of landforms, cultural features, drainage patterns, maximum soil contrasts, geologic structure, alteration halos, water quality, agricultural land use; urban area analysis	Agriculture, forestry, range Geology & mineral resources Land resource management Environment Water resources
6	0.64-0.76	Determination of land use, shoreline configuration, land-water contrasts, alteration halos; crop differentiation; wetlands mapping	Land resource management Water resources Marine resources Agriculture, forestry, range Geology & mineral resources
7 8	0.75-0.90 0.90-1.08	Land-water discrimination; landform differentiation; vegetation classification; ground moisture, geologic structure, wetlands mapping; surface water, flood inundation delineation; provide maximum haze penetration; determine urban areas, transportation links, water pollutants, plant species, plant diseases	Geology & mineral resources Land resource management Water resources Agriculture, forestry, range Marine & ocean surveys Environment
9	1.00-1.24 1.10-1.35	Surface moisture determination	Water resources
11 12	1.48-1.85 2.00-2.43	Vegetation classification; surface moisture, surface roughness determination	Water resources Agriculture, forestry, range
13	10.2-12.5	Determine rock & soil thermal inertial properties, soil moisture, drainage details, volcanic activity; detect geothermal activity, forest fires, underground fires; determine artificial (pollutants) and natural (springs) discharges into lakes, rivers & oceans	Geology & mineral resources Environment Water resources Forestry Land resource management

Table 6. Best Multispectral Scanner Spectral Bands for Earth Resources Applications

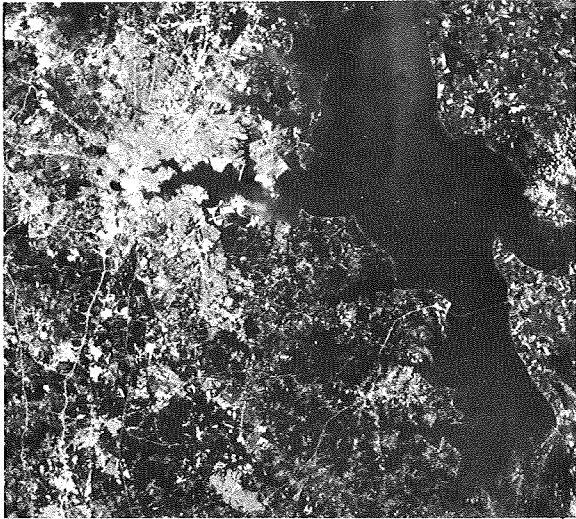
Earth Resources Survey Applications	Wavelength, micrometers												
	Band 1 0.41-0.45	Band 2 0.44-0.52	Band 3 0.49-0.56	Band 4 0.53-0.61	Band 5 0.59-0.67	Band 6 0.64-0.76	Band 7 0.75-0.90	Band 8 0.90-1.08	Band 9 1.00-1.24	Band 10 1.10-1.35	Band 11 1.48-1.85	Band 12 2.00-2.43	Band 13 10.2-12.5
Mineral Resources & Geologic Structure				2	1	1	1	1					1
Agriculture, Forestry & Range Resources			1	1	1	1	1	2	2	2	2	1	1
Land Resource Management			2	1	1	1	1	1	2	2	2	2	2
Water & Marine Resources	1	1	2	1	1	1	1	1	2	2	2	2	1
Environment	2	2	1	1	1	2	1	1					1

1 = Best spectral band for application

2 = Spectral band could be useful

Figure 45 is a scene that includes Baltimore, Maryland, in all six bands of the multispectral camera. For comparison, Figure 46 shows the same scene in twelve bands of the scanner. Band 1 (0.41 to 0.45 micrometer) has been omitted because the processed

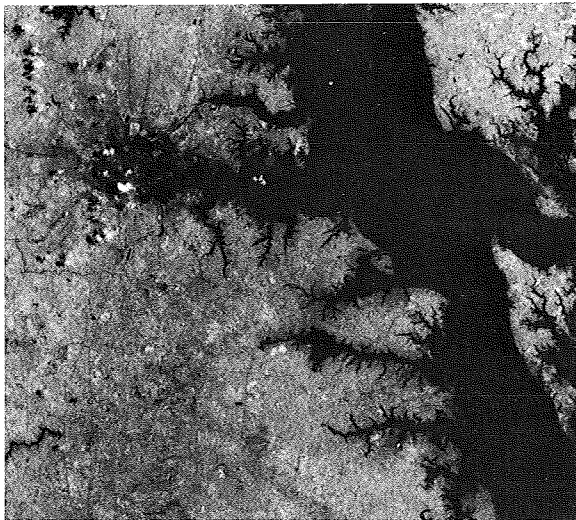
photo is almost blank, as would be expected for the hazy, high-humidity condition existing at the time the data were taken. It is left to the reader to determine the characteristics of each of these bands and their applicability to his remote-sensing requirements.



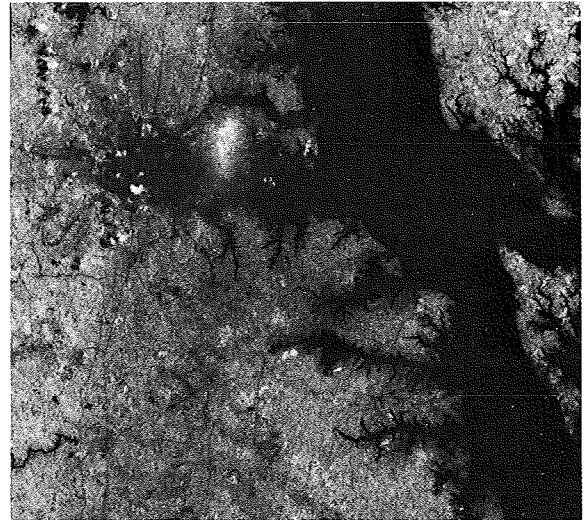
a. Station 6, 0.5 to 0.6 micrometer SL3-23-195



b. Station 5, 0.6 to 0.7 micrometer SL3-24-195



c. Station 1, 0.7 to 0.8 micrometer SL3-19-195



d. Station 2, 0.8 to 0.9 micrometer SL3-20-195



e. Station 4, 0.4 to 0.7 micrometer

SL3-22-195



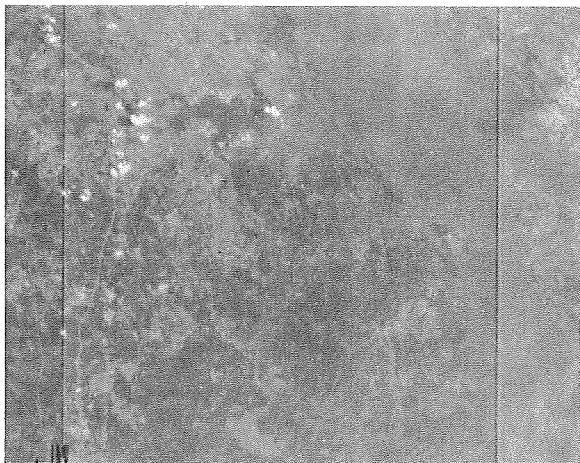
f. Station 3, 0.5 to 0.88 micrometer

SL3-21-195

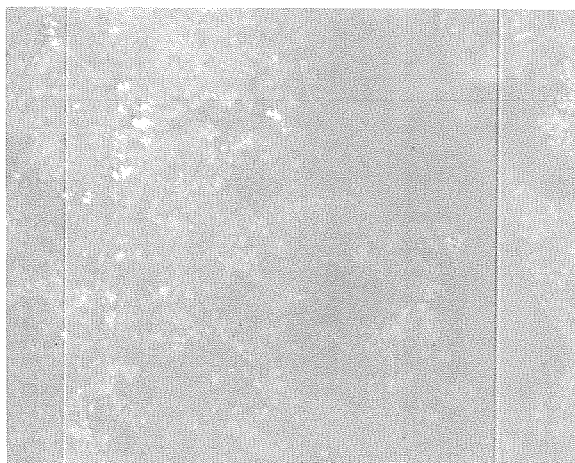
Figure 45 shows the Baltimore area taken from the six stations of the multispectral camera, showing the spectral ranges. Figure 45e is high-resolution color and Figure 45f is color infrared. Compare these

photographs to the images in Figure 46, which were reconstituted from twelve channels of the multispectral scanner.

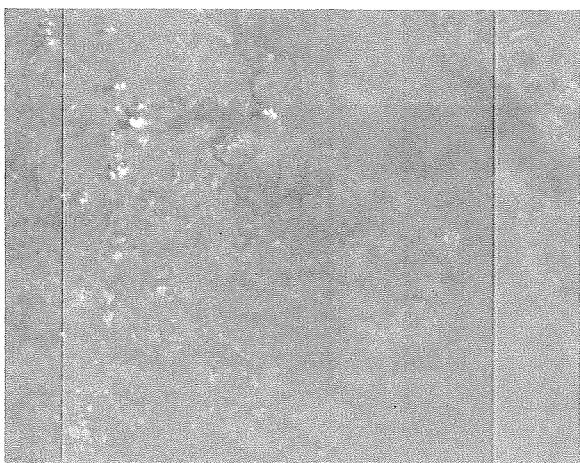
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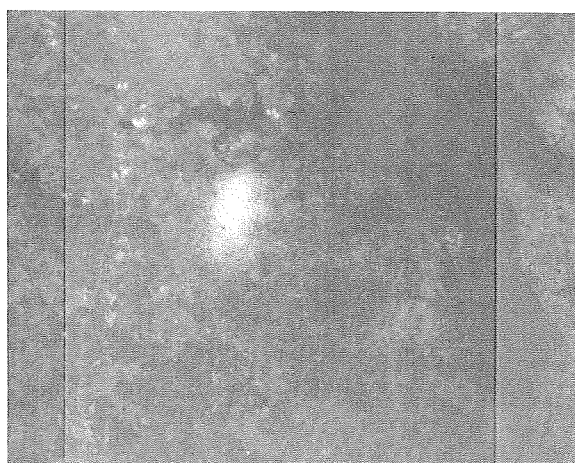
a. Band 2, 0.44 to 0.52 micrometer



b. Band 3, 0.49 to 0.56 micrometer



c. Band 4, 0.53 to 0.61 micrometer



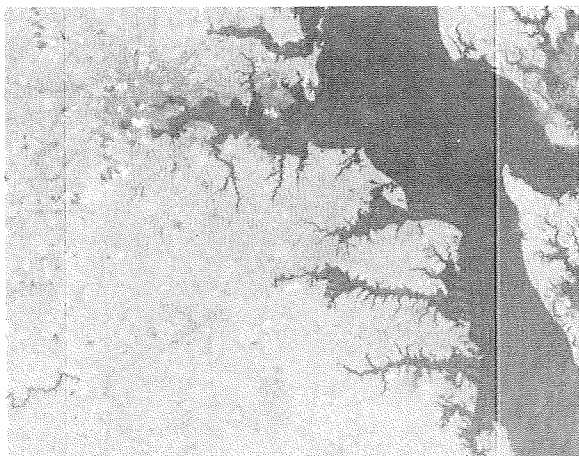
d. Band 5, 0.59 to 0.67 micrometer



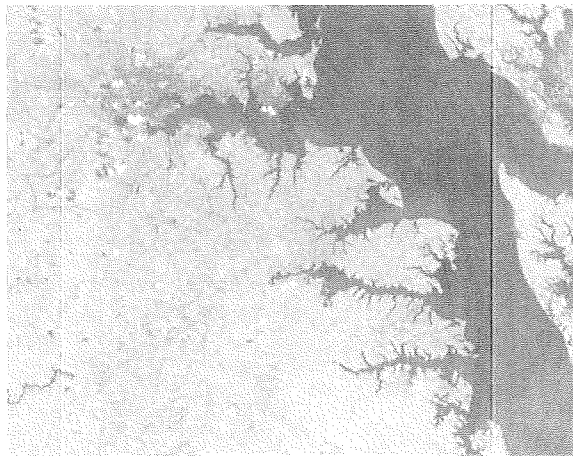
e. Band 6, 0.64 to 0.76 micrometer



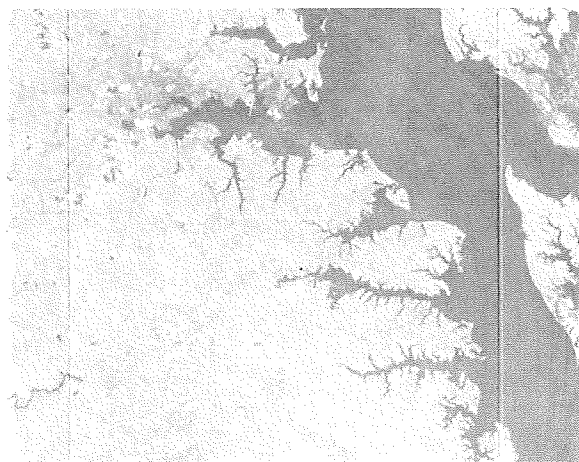
f. Band 7, 0.75 to 0.90 micrometer



g. Band 8, 0.90 to 1.08 micrometers



h. Band 9, 1.00 to 1.24 micrometers



i. Band 10, 1.10 to 1.35 micrometers



j. Band 11, 1.48 to 1.85 micrometers



k. Band 12, 2.00 to 2.43 micrometers



l. Band 13, 10.2 to 12.5 micrometers

Figure 46 shows the Baltimore area in images generated from twelve individual bands of the multispectral scanner, as indicated under each picture.

Band 1 (0.41 to 0.45 micrometer) is not shown because there is practically no penetration of the moist, hazy air. Compare this figure to Figure 45.

III. LAND RESOURCE MANAGEMENT

Problems resulting from interactions of population and economic growth, land use, resource depletion, and environmental impact are creating a growing awareness of the need for sound management of land and natural resources. Remote sensing is a significant tool for gathering the information needed for such management. Remotely sensed data acquired by satellites and aircraft are potentially applicable to a broad spectrum of disciplines. When used in a planned and coordinated program, the data can provide uniform, accurate, and timely information for diverse users—from federal, state, and local policy and regulatory officials to private industry and special-interest groups.

Application of remotely sensed data to solving land resource management problems is truly multidisciplinary and involves land use, cartography, hydrology, geology, ecology, forestry, agriculture, demography, geography, transportation, engineering, and regional planning. Such data could directly benefit individuals concerned with regional and rural land-use baseline mapping, monitoring and mapping changes in land use, trend projection, overall regional planning, growth and development monitoring, and revision of planimetric map details.

Application of remote sensing to land resource management planning is receiving the greatest attention at state and regional levels, where it is efficient for frequent inventories and updating of mappable resources and provides timely data for analyzing the effects of man's activities on these resources. States

that are concentrating heavily on remote sensing for resource management include Alabama, Alaska, Arizona, California, Iowa, New York, and Ohio. Groups applying remote-sensor data on a regional basis include the Northern Great Plains (South and North Dakota), Northern Megalopolis (Massachusetts, Connecticut, Rhode Island), and the Mid-Atlantic (Chesapeake and Delaware Bay) regions. Many of these groups employ, or plan to employ, the correlative remote-sensor approach to resource management. They use selective underflights by conventional aircraft to support and supplement the broad data-acquisition capability of synoptic satellite coverage. In many cases, specific areas are pinpointed by a systematic evaluation, using manual or automated interpretation techniques.

The major advantage of Skylab Earth Resources Experiment Package (EREP) data is that it provides such high-quality synoptic imagery and spectral data with moderate to high spatial resolution. These characteristics are valuable for interpreting regional and local land use patterns and resource characteristics, as well as for pinpointing high-priority sites for examination by larger-scale imagery and field investigation. EREP also provides a fixed data base upon which pertinent land use changes, growth patterns, and associated dynamics peculiar to a region can be updated with Earth Resources Technology Satellite (ERTS) imagery every 18 days. In addition, EREP data can be used to supplement and enhance interpretation of ERTS imagery, particularly in selected areas where greater spatial and spectral details are required (e.g.,

delineation of second-order urban use patterns, transportation and communication networks, secondary and tertiary drainageways).

Table 7 summarizes the steps in a coordinated remote-sensor program geared to land resource management. Note that a complete remote-sensor program also requires supporting field investigations at selected sites to complete the analysis of satellite and aircraft data.

EREP SENSOR CAPABILITIES FOR LAND RESOURCE MANAGEMENT

EREP is the most complete assembly of earth resource instruments to fly in space to date,

with individual sensors that have better spatial and spectral resolution, ground coverage, and scale than any previous system. EREP's six remote-sensor systems provide synoptic surveys of selected areas on the earth in visible, infrared, and microwave spectra. Specific systems performance and data formats of each sensor are described in Chapter I (page 5ff).

The three EREP sensors that have the most immediate application to land resource management surveys are the multispectral photographic camera, earth terrain camera, and multispectral scanner.

The primary advantage of the multispectral camera is its ability to provide simultaneous spectrally and metrically accurate images in the visible and near-infrared spectra, covering

Table 7 Elements of a Coordinated Remote-Sensor Program for Land and Resource Management

Data Source	Data Output Quality	Applications
Skylab EREP	Moderate to high spatial resolution Narrowband spectral resolution Small-scale wide-area coverage	Static data base Land use baseline Regional land resource evaluation data base Enhance ERTS interpretation in defining high-priority areas
Earth Resources Technology Satellite (ERTS)	Low spatial resolution Broadband spectral resolution Small-scale wide-area coverage	Repetitive data base Synoptic update of temporal dynamic changes in EREP-derived regional land use & resource baseline Trend projection
High-Altitude Underflights	High spatial resolution Moderate scale	Specific coverage, as required Detailed analysis of high-priority areas Correlative data base for field activities & decision-making
Low-Altitude Underflights	Very high spatial resolution Large scale	Specific "pinpoint" area coverage, as required Specific land use & urban area studies Detailed engineering analyses Complete remote-sensor data base
Field Investigations	Specific point investigations Quantitative spectral measurements	Surface or urban sampling Verification of remote-sensor analyses derived from satellite & aircraft data Coordinated data base for decision-making

a surface area 88 nautical miles (163 kilometers) square [7744 square nautical miles (26 569 square kilometers)] per image frame.

The earth terrain camera directly complements multispectral camera imagery by providing fairly high spatial ground resolution [17 to 30 feet (55 to 100 meters)] for more detailed image interpretation while maintaining wide ground coverage [59 nautical miles (109 kilometers) square].

The primary advantage of the multispectral scanner is its ability to provide quantitative scene radiance data simultaneously in 13 spectral bands, with digital output for specialized computer spectral-recognition applications.

The microwave radiometer, scatterometer, and altimeter, and the L-band radiometer, are important experimental microwave sensors whose data are primarily useful in studying the significance and possible applications of microwave emissivity and backscatter to oceanographic and atmospheric phenomena. Therefore, data from these sensors are not considered significant for land resource management.

Multispectral Photographic Camera

This system is an important advance over earlier multispectral cameras for use in space because of its spectral and spatial resolution. For scientific purposes, it is important because it is an accurately calibrated spectroradiometric photographic instrument with high shutter accuracy and repeatability, low geometric distortion, and moderate spatial resolution. Two of the six camera stations used color and color-infrared films—each film sensitive to a different part of the spectrum. The remaining stations used panchromatic and infrared films with different filter combinations to simultaneously photograph the same scene in four contiguous, relatively narrow, spectral bands, producing a separate black-and-white photo for each band. The camera's characteristics are described in Chapter I (page 5ff).

Utility of Individual Camera Stations—The subtle tonal differences in various spectral imagery bands, individually and in combination, contribute to interpretation of small-scale multiband photographs because tonal contrasts permit discrimination of an object from its background as well as identification of similar or dissimilar objects and materials. Figure 47 shows a representative set of multispectral photographs of Little Rock, Arkansas, each obtained by a different camera station and each showing the same scene in a different part of the spectrum.

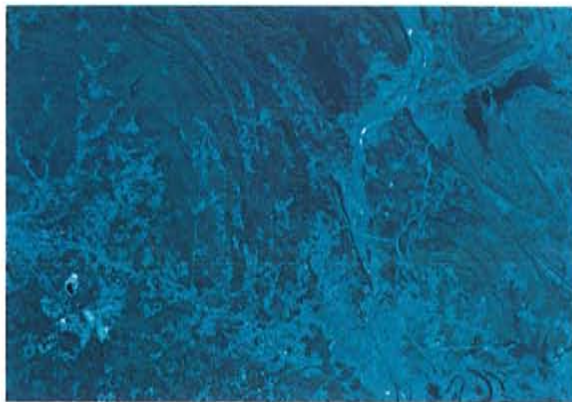
Photographs from panchromatic film stations 5 and 6 (Figures 47c and d) are in varying shades of gray. Station 5 (0.6- to 0.7-micrometer "red band") photographs are best for resolving objects on the ground, with an estimated value in the 100- to 125-foot (30- to 38-meter) range. This band is particularly useful for gross urban-area analysis, differentiation of land use patterns and cultural features, land use data-base mapping, planimetric map revision, delineation of soil, geologic structure, vegetation, and soil contrasts (because bare soils tend to have a maximum reflectance variation in the 0.6- to 0.7-micrometer band). Station 6 (0.5- to 0.6-micrometer "green band") imagery, whose spatial resolution is about 140 feet (43 meters), is useful for vegetation identification and regional soil mapping.

The black-and-white infrared imagery from stations 1 and 2 (Figures 47e and f) does not have the high spatial resolution of stations 5 and 6. However, it was filtered so that haze penetration is generally superior to that of the panchromatic imagery. As in panchromatic imagery, gray tones in infrared result from the degree of reflection of objects rather than from their true colors. For example, broad-leaf vegetation is highly reflective in infrared and registers as light tones of gray, whereas needle-leaf tends to be less reflective and therefore registers quite dark. Black-and-white infrared imagery is also quite useful in determining the extent of drainageways, irrigation canals, tidal marshes, land-water boundaries, and to some extent, gross soil moisture patterns, as will be shown later.



a.

SL4-A4-351



b.

SL4-A3-351



c.

SL4-A5-351



d.

SL4-A6-351



e.

SL4-A1-351



f.

SL4-A2-351

Figure 47a is from station 4 (0.4 to 0.6 micrometer), Figure 47b from station 3 (0.5 to 0.88 micrometer). Figures 47c and d are black-and-white photographs in the 0.6- to 0.7-micrometer (station 5) and 0.5- to 0.6-micrometer (station 6) bands, respectively. Figures 47e and f are infrared images in the 0.7- to 0.8-micrometer (station 1) and 0.8- to 0.9-micrometer (station 2) bands, respectively. Note that in the

black-and-white images, in particular, different tonal variations of the individual spectral bands provide an excellent data source from which pertinent physical and cultural features of the urban and rural environments can be identified.*

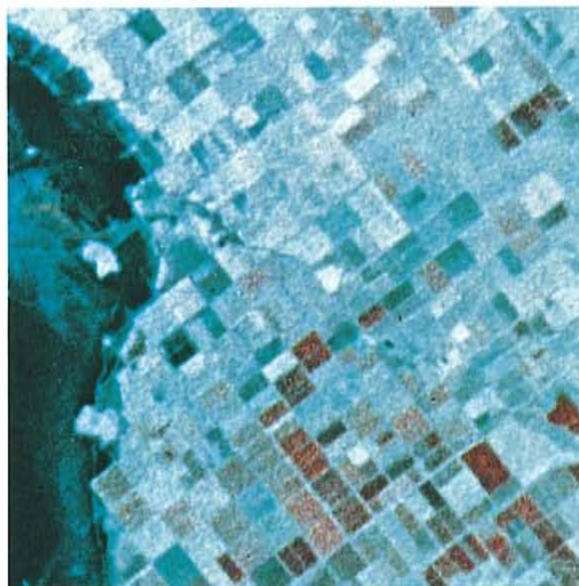
* Unless otherwise noted, figures show only part of an EREP photograph — multispectral camera photos enlarged 4X and earth terrain camera photos 2X.

In addition to interpreting individual multispectral bands separately, the user can select any three or four black-and-white spectral bands, assign a different color to each band, and combine the images into a color presentation with a specialized multispectral viewing device (page 37). This device also permits selective alteration of the color to enhance specific target-background relationships, as discussed on page 37ff. Figure 48 compares a color-infrared image (station 3) with a representative color composite enhancement of the same area made by combining imagery from stations 1, 5, and 6 into a false-color presentation.

Photographs from stations 3 and 4 differ from those of other multispectral channels in that the images were recorded on color-infrared and broadband color film rather than in narrow bands on black-and-white panchromatic and infrared films. The spatial resolution of imagery from the color station (4) appears to

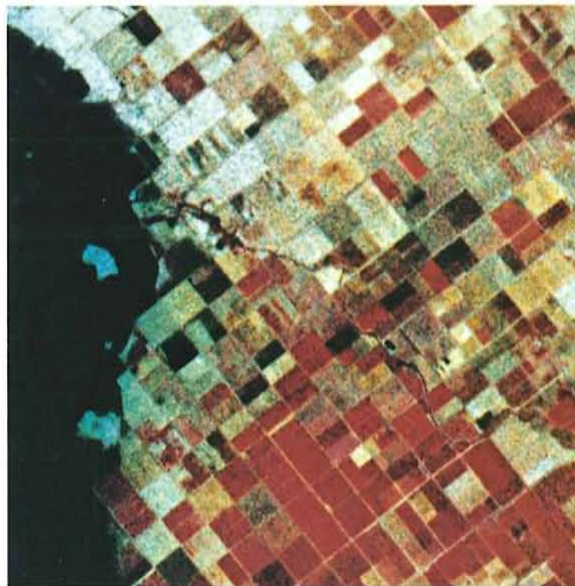
be slightly lower than that from station 5, being about 130 to 150 feet (40 to 46 meters). Nevertheless, color is an invaluable aid in cultural and land use boundary interpretation, soil and rock differentiation, and crop identification. Although broadband panchromatic black-and-white photographs can record significant ground detail in shades of gray, the eye can detect color variations more readily than gray tones. Therefore, the three-layer color film emulsion in station 4 provides more readily understood spectral images for land resource management studies than broadband panchromatic photographs.

Imagery from station 3 is recorded on false-color film, which differs from natural color in that the three emulsion layers are sensitized to green, red, and infrared radiation instead of the usual blue, green, and red wavelengths. When the film is correctly exposed, resulting transparency colors are false for most natural features, such as magenta or deep red for



a.

Figure 48a is a 20X enlargement of a portion of a color infrared image from station 3, showing the southeastern end of the Salton Sea and the upper part of the Imperial Valley in California. The enlargement shows not only the limited spatial resolution of this film but also the low color saturation in many infrared reflecting areas. In Figures 48a and b, we see



b. (Courtesy Itek Optical Systems Division, Lexington, Mass.)

the same area under the same enlargement, but Figure 48b is a composite of three black-and-white photos (stations 1, 5, 6) that, due to film types and filtering, have the same combined spectral response as the color-infrared. The advantages of the resulting composite are obvious—in spatial definition, spatial description, and color saturation.

healthy vegetation (Figure 47b). This imagery should be interpreted primarily from the spectral standpoint because its resolution is only about 240 to 260 feet (79 to 73 meters). For land resource management surveys, color-infrared is particularly valuable for showing vegetation variations (grass, trees) to differentiate gross socioeconomic conditions in high-density urban areas, areas of recent construction and strip mining activities, vegetation vigor and species, and soil moisture, as well as for mapping bedrock and drainage.

No single multispectral camera station satisfies all land resource management information requirements. Each station has its inherent advantages and limitations, both spatially and

spectrally. The color and color-infrared stations (4 and 3) have added new dimensions to image interpretation. However, the varied tones and patterns recorded simultaneously by the four black-and-white film stations (1, 2, 5, and 6) can also complement each other to provide more valuable interpretation. This suggests that the most information about a particular area can best be derived by combining knowledge of the region with knowledge of the characteristics of the individual bands. For example, combining stations 5 (0.6 to 0.7 micrometer), 3 (0.5 to 0.88 micrometer, color infrared) and 1 (0.7 to 0.8 micrometer) permits interpretation of the relationships of surface drainage, soil moisture, land configuration, and regional urban and rural land use

Table 8 Utility of Multispectral Camera Stations for Land Resource Management

Station	Wavelength, micrometer	Estimated Ground Resolution, feet (meters)	Utility
1	0.7 – 0.8	240 – 260 (73 – 79)	Penetrate haze for land-water discrimination; surface water, soil moisture, gross urban & transportation linkage mapping
2	0.8 – 0.9	240 – 260 (73 – 79)	Penetrate haze; floodplain delineation; surface water, alluvial plain, & surficial materials mapping
3	0.5 – 0.88	240 – 260 (73 – 79)	Penetrate haze; differentiate areas of recent construction, exploitation & extraction activities; delineate gross socioeconomic urban areas, vegetation vigor & stress; macrodrainage, rock & soil differentiation
4	0.4 – 0.7	130 – 150 (40 – 46)	Delineate urban boundaries, new urban development, agricultural land use; gross rock & soil mapping; land use data-base mapping; determine water penetration capability
5	0.6 – 0.7	100 – 125 (30 – 38)	Best spatial resolution & image definition for land use data-base mapping; planimetric map revision & updating to 1:50,000 scale, 1:250,000-scale photomap preparation; differentiation of land use & cultural patterns, transportation linkages, geologic structure, & landform mapping
6	0.5 – 0.6	130 – 150 (40 – 46)	Soil mapping; vegetation delineation; determining waste disposal activities; snow cover mapping

patterns. Table 8 summarizes the potential utility of the multispectral stations for land use and resource management applications.

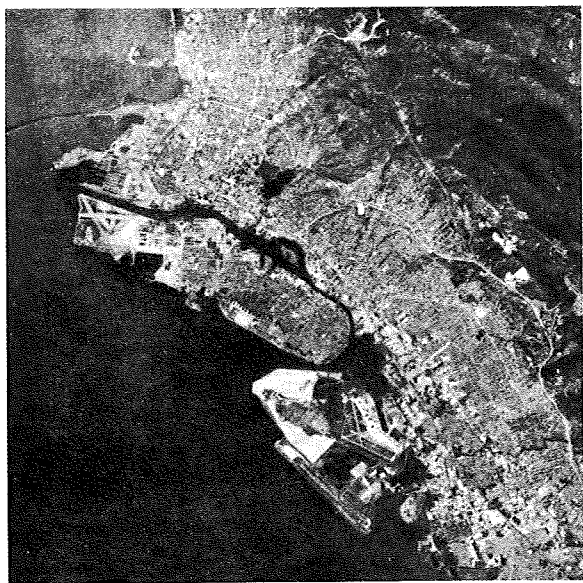
Multispectral Camera Scale Considerations—The contact scale of EREP multispectral camera imagery is nominally 1:2,860,000, or approximately 39 nautical miles to the inch (28 kilometers per centimeter). Although this produces a rather small image, the spatial quality or map information in the imagery has potential utility for compiling land use and resource inventory data-base maps or photomaps that can be regionally updated by supplemental ERTS imagery.

The detail available for photomapping depends more on photographic resolution than contact scale. For example, if a particular image from high-resolution camera station 4 or 5 is to be used as a base map for regional land use data, the following criteria can be applied to evaluate its ability to satisfy basic mapping requirements.

Considering that the unaided eye can resolve

about 5 line pairs per millimeter, the final multispectral image map should at least retain that resolution. Therefore, to allow for inevitable losses in processing, a print of the actual photographic frame used to produce the photomap should have at least 8 line pairs per millimeter. On this basis, a high-resolution black-and-white red-band image, whose original photographic resolution is approximately 80 line pairs per millimeter on the contact transparency, can be enlarged about 11X to a usable photomap that approaches the standard 1:250,000 scale, or approximately 3.5 nautical miles to the inch (2.6 kilometers per centimeter).

Figure 49 shows a representative 11X enlargement (1:250,000 scale) of a portion of a high-resolution black-and-white red-band image of Oakland, California. With the aid of binocular viewing, contact positive film transparencies from station 5 can be magnified more than 25X to a scale of approximately 1:100,000. An example of a 28X enlargement (1:100,000 scale) of part of Oakland is shown in Figure 50.



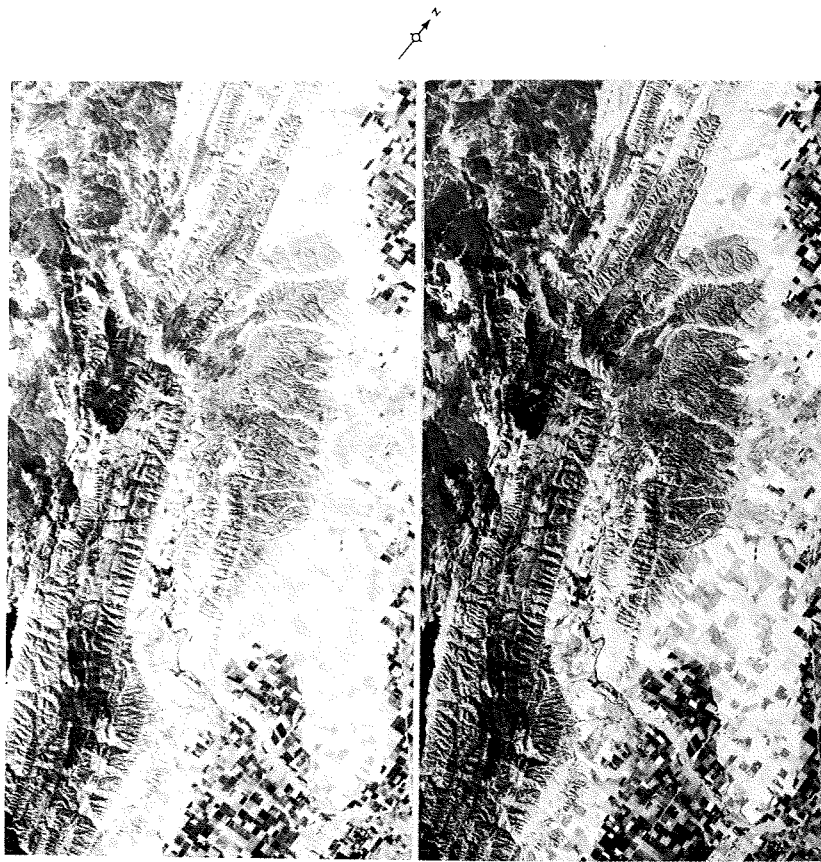
SL4-77-072

Figure 49 11X Enlargement of Oakland Area



SL4-77-072

Figure 50 28X Enlargement of Oakland



SL3-41-139

SL3-41-140

Figure 51 is a representative stereogram of multispectral station 5 imagery over a portion of the Sacramento Valley and Coast Range of California. Note the

degree of detail available, as well as the clarity with which the various topographic, landform, and cultural features are displayed.

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Stereo Capability—Many multispectral images were acquired at 10-second intervals. Because of spacecraft ground velocity and the ground area covered by each frame, this interval resulted in a 60-percent forward overlap for stereo viewing. This is particularly important to the image interpreter who is interested in land resource management applications because it enhances his ability to detect and identify objects as well as to analyze the relationship of topographic relief and landform characteristics (Figure 51).

Earth Terrain Camera

The earth terrain camera is a significant step forward in our ability to survey earth resources because it provides the highest spatial resolution and image definition of any earth resource sensor yet flown in space. The photographs are particularly useful for enhancement in a variety of applications that require high spatial resolution:

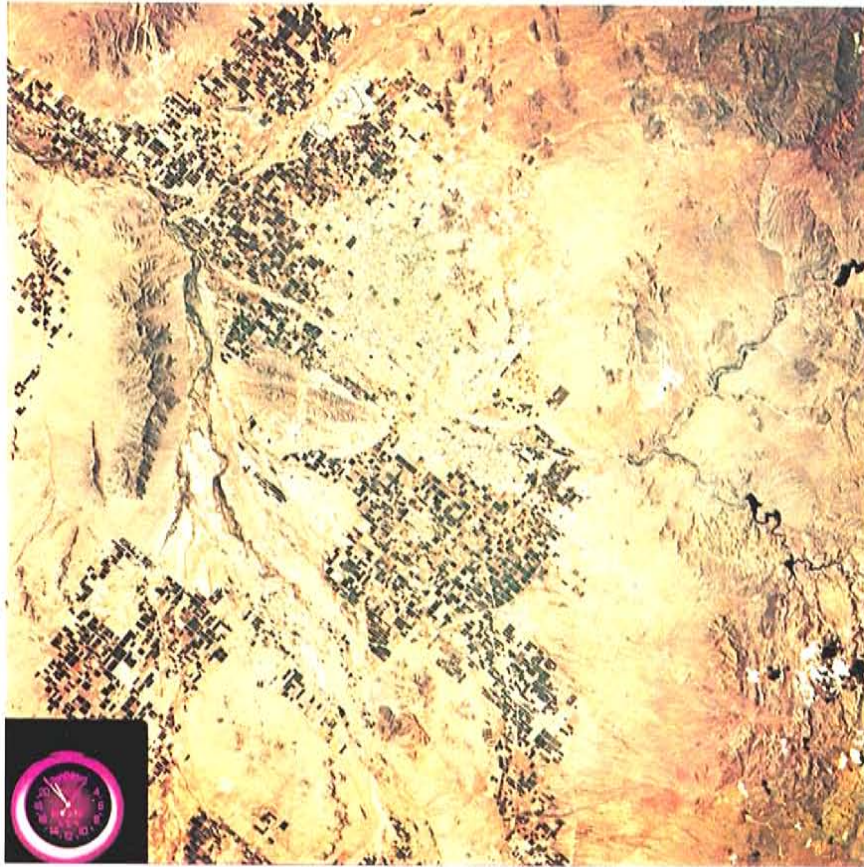
- Delineation of land use and urban development patterns, including transportation networks in second- and third-order classifications;
- Preparation of planimetric cartographic products, base photomaps, and revisions to standard line maps;
- Identification of second- and third-order landform detail, which is particularly valuable for analyzing terrain and landform characteristics;
- Enhancing interpretation of multispectral photographic and scanner data over specific regions where more detailed spatial information is required, as well as providing high-quality supplemental information for interpreting correlative ERTS imagery.

Upon initial examination, EREP earth terrain camera photos appear very similar to those from high-altitude [60,000 feet (18 288 meters)] aircraft. The major exception is that

individual aerial photographs cover approximately 18-nautical-mile (33-kilometer) squares, whereas each earth terrain camera image covers a square of about 59 nautical miles (109 kilometers). This similarity is readily evident in Figures 52 and 53.

As previously discussed, scale is an important consideration in photointerpretation for land resource management and has a direct bearing on the type of base map, photomap, or map revision to be made. The contact scale of an EREP earth terrain camera image is nominally 1:950,000, or approximately 13 nautical miles to the inch (9 kilometers per centimeter). Considering ground resolution and photo scale, earth terrain camera imagery has adequate detail for photomap and database compilation at scales up to at least 1:50,000. In addition, contact film transparencies can withstand more than 25X magnification, thus providing the added ability to compile or transfer planimetric detail for selected line map revisions at scales as large as 1:24,000. The advantages of earth terrain camera image quality for map compilation and revision are further illustrated on pages 66 and 68.

Specific earth terrain camera photos taken along given EREP pass sequences were acquired with 60-percent overlap to provide for stereo viewing. This enhances interpretation and is particularly valuable in land resource management applications because it provides a better understanding of the relationships of relief and spatial orientation in a region. Figure 54 is a representative stereogram of portions of two overlapping earth terrain camera frames of the Sacramento Valley. As is the case with multispectral camera stereo imagery, vertical exaggeration or depth of stereo perception is not as great in space photographs as it is in conventional aircraft photos. However, its utility for enhancing regional landform patterns and gross relief variations is readily apparent.



SL3-86-011

Figure 52a is a contact print of an earth terrain camera photo taken over Phoenix, Arizona. Figure

52b is a 50-percent reduction of an entire aerial photo covering a small portion of the same area.



b.

Compare the relative image detail in each frame and note the ability of the earth terrain camera's overview

to assist interpretation of large-area regional and urban land use categories.



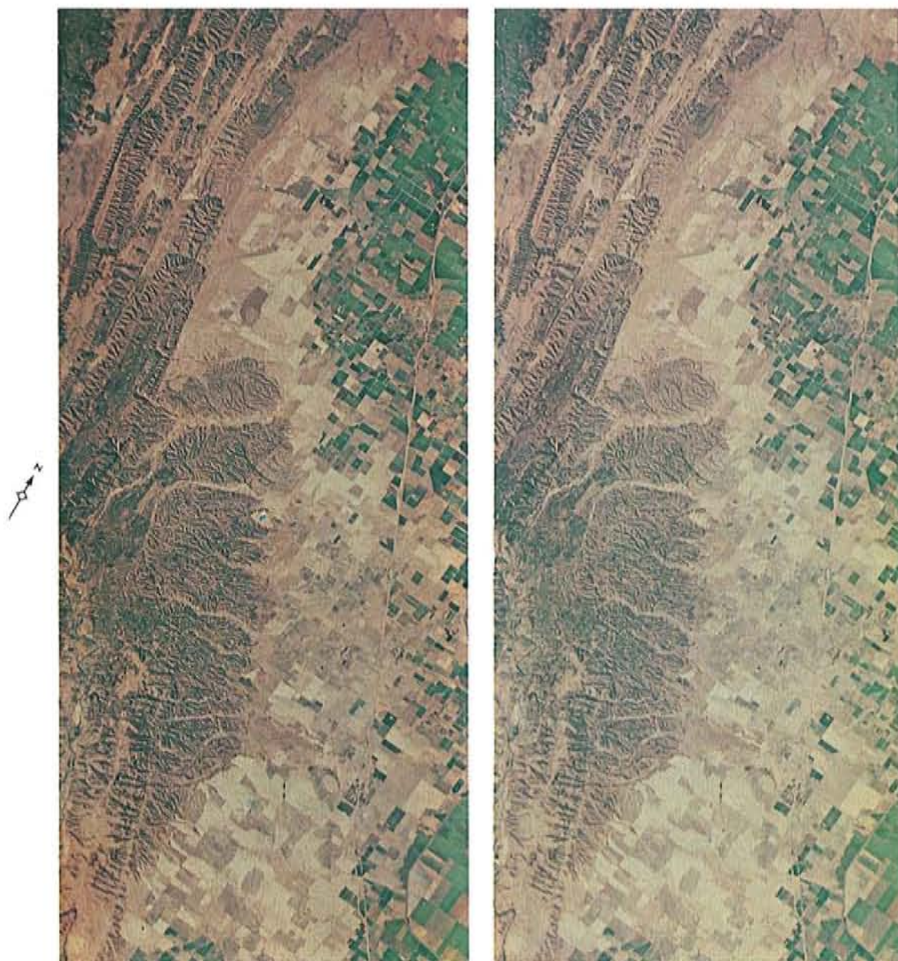
a.

Figure 53 compares part of an aerial photo (Figure 53a) at the contact scale of approximately 1:120,000 with the same portion of an earth terrain camera frame (Figure 53b) enlarged 8X to correspond to the scale of the aerial photo. The black-and-white and



b.

color imagery from the earth terrain camera has relatively high resolution, nominally 55 to 100 feet, (17 to 30 meters), which makes it an ideal sensor for delineating large-scale urban patterns and transportation networks.



SL3-86-319

SL3-86-320

Figure 54 Earth Terrain Camera Stereogram of the Sacramento Valley

Multispectral Scanner

Descriptions of the multispectral scanner and its data formats are in Chapter I (page 13ff). Selected processed data will be available for areas covered by the scanner. Chapter IX (page 177ff) tells how to obtain the data.

It should be emphasized that the primary function of the scanner is to obtain quantitative high-resolution spectral data from radiation reflected and emitted by the earth's surface. Recordings were made in 13 spectral bands, ranging from 0.4 micrometer in the visible region to 12.5 micrometers in the infrared, omitting the wavelengths that cannot be transmitted through the atmosphere.

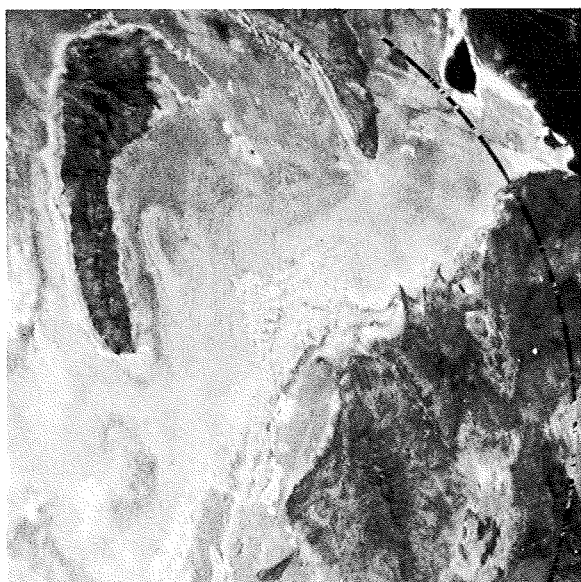
The EREP scanner has significantly more spectral resolution than the ERTS multispectral scanner in terms of wavelength coverage (thirteen spectral bands for EREP versus four for ERTS) and digital output encoding (8-bit or 256-gray-level sampling for EREP versus 6-bit or 64-gray-level for ERTS). The primary advantage of the ERTS scanner is its ability to provide synoptic multispectral coverage of the earth's surface at 18-day intervals with a swath width of 100 nautical miles (185 kilometers), as opposed to the 40-nautical-mile (74-kilometer) swath of the EREP scanner. Consequently, EREP scanner data can be used in land resource management to enhance interpretation and analysis of ERTS scanner data, particularly in areas where more spectral

detail is required (e.g., use of EREP multispectral scanner bands 3, 8, 11, and 13 to further define gross soil moisture properties in conjunction with repetitive ERTS multispectral scanner coverage).

The multispectral scanner was basically a quantitative spectrometric instrument. Its data are most meaningful when the discrete spectral radiance values over a given area are processed and handled in digital form. Computer-compatible tape-recorded data permit automated spectral recognition and digital manipulation that are particularly well suited for land use classifications, thematic mapping (e.g., waterways, forested areas), and acreage assessment. Specific land use applications amenable to automated data handling are

discussed in the next section. Multispectral scanner image products should be considered a secondary data source because the spectral response of the film is limited, providing a maximum of 21 gray levels, as opposed to the 256 gray levels available from the digital output. Correspondingly, when spatial detail is also required for a given area, multispectral camera and earth terrain camera images are recommended to supplement multispectral scanner quantitative digital data (Figure 55).

Published investigations based on the use of discrete wavelengths similar to those of the scanner indicate that some channels are more useful than others for detecting and defining key natural and cultural phenomena. This is discussed on page 43ff.



a.

Figure 55 compares a multispectral scanner image segment (band 2, 0.46 to 0.51 micrometer, Figure 55a) with that of the same geographic area (Great Salt Desert) covered by part of a multispectral camera image from station 5 (0.6 to 0.7 micrometer, Figure



b.

SL3-41-200

55b). The differences in spatial detail between the two images are evident. What is not evident is that much more spectral information (number of gray levels) is available in the scanner digital tape than in scanner film imagery.

EXAMPLES OF LAND RESOURCE MANAGEMENT TECHNIQUES

The fundamental application of EREP data in land resource management surveys is preparation of a resource-use information base, which may vary from a series of hand-drawn thematic maps or photomaps to a completely computerized data base. A second application, closely related to development of an information base, is land resource evaluation, sometimes termed *land capability*. The functional suitability of land for urban development, resource development, recreation, and other purposes depends on a number of factors that are analyzed and recorded in an inventory of land use and physical characteristics. This inventory is most useful as a tool for regional development planning. It can be readily implemented with high-quality EREP photographic and multispectral scanner data. Uses for which EREP data are most applicable include map preparation, land use inventories, and land resource evaluations.

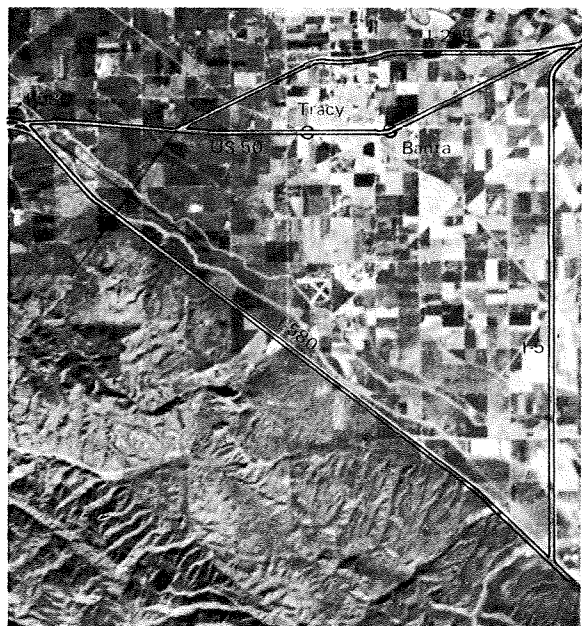
Map Preparation

The image quality (sensor resolution, ground resolution, or enlargement capability) of multispectral and earth terrain camera photographs indicates the types and scales of maps that can be produced. Three types of maps of value to planners and resource managers can be compiled directly from EREP baseline data—photomaps, thematic maps, and revised line maps.

Photomaps—These are used for urban and construction planning, transportation surveys, and as a basic information source for displaying certain aspects of cultural and natural details. They are especially valuable for defining current land use in areas where up-to-date topographic maps are not available. Photomaps have a higher information content than conventional maps, whose content at smaller scales is limited by the ability to draw fine lines and by the need to select features to be

displayed. The information content of a photomap is limited only by the resolutions of the camera and film.

Imagery from the EREP multispectral and earth terrain camera definitely has good enough resolution, even at high enlargements, to provide far greater information and detail than is available from comparable line maps with similar scales. The degree to which imagery can be enlarged for use as a photomap depends on the ability to provide sharp, well-defined images with maximum retention of detail. Inadequate enlargement of EREP imagery will result in the loss of considerable available detail, whereas too great an enlargement will blur the image. Figures 56, 57, and 58 are examples of the types of photomaps that can be inexpensively produced from EREP multispectral and earth terrain camera imagery.



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Figure 56 is an 11.4X enlargement of part of a multispectral camera image from station 5 ("red band," 0.6 to 0.7 micrometer) of the San Francisco area. The photomap approximates the standard 1:250,000 scale and shows the pattern of major freeways. It was prepared by simply enlarging part of the 70-millimeter contact frame and annotating the basic road network directly on a transparent overlay registered to the photo enlargement.

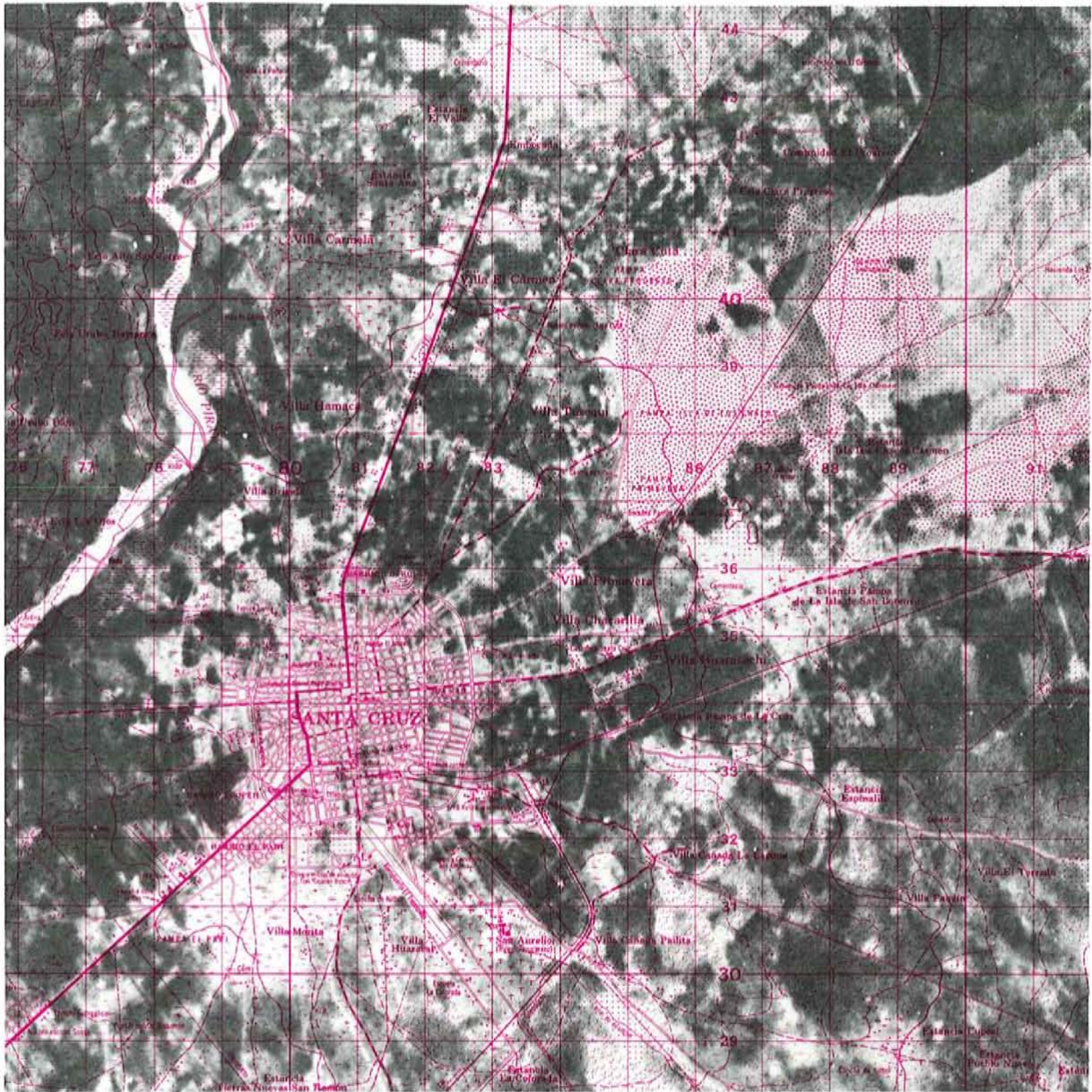


Figure 57 combines a 1:100,000-scale multispectral camera photo and a topographic map of Santa Cruz, Bolivia. The Skylab photo was a 28X enlargement of a station 5 (0.6- to 0.7-micrometer) image. The figure is an actual cartographic revision compiled for the

Bolivian government as part of the Inter-American Geodetic Survey Program. It demonstrates the utility of EREP data for establishing a baseline from which to evaluate the land resource potential of remote or poorly mapped areas.

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Figure 58 is a 1:50,000-scale photomap—an approximate 19X enlargement of part of an earth terrain camera image of St. Louis. Note the amount of cultural

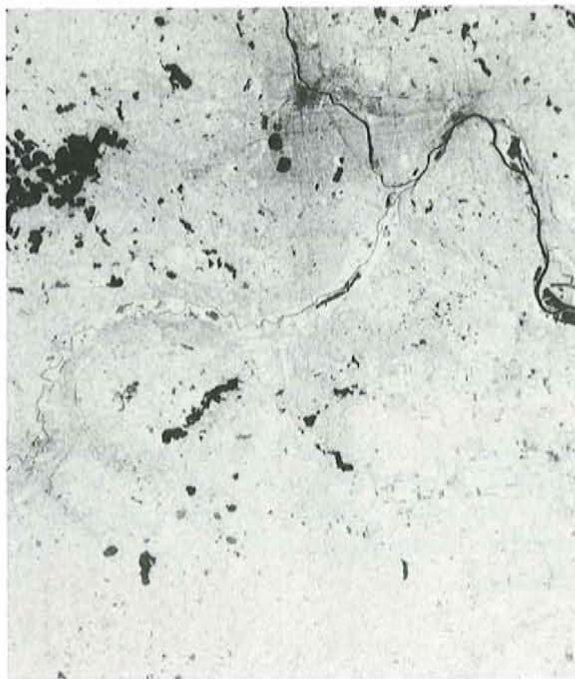
information readily displayed on this particular map—primary, secondary, and tertiary transportation networks, and industrial complexes along the river.

Thematic Maps—These normally show the location and distribution of a particular feature, like surface water or vegetation. The plotting base may either be photographs or maps, with features plotted on transparent overlays. Thematic maps are particularly useful for regional resource inventories, regional planning, and environmental decision-making. Figures 59 and 60 are examples of types of thematic maps that can be produced from EREP photographs.

Thematic maps can be the base from which future regional changes are measured, and can

therefore be of direct assistance in regional forecasting. Figure 59 shows how black-and-white infrared naturally enhances the contrast between land and water. Thematic information of this type can also be obtained artificially by density slicing, analog electronic means, or by digital computer processing. (See page 37.) Thus, certain features are spectrally isolated and enhanced relative to the background. This process brings out only the information on the image that is pertinent to the thematic data to be displayed—distribution of surface water, types of vegetation, snow cover, etc.

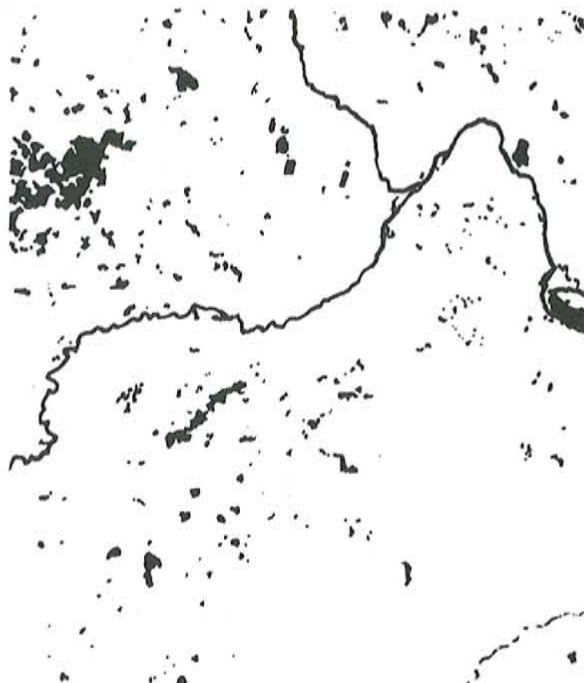
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a.

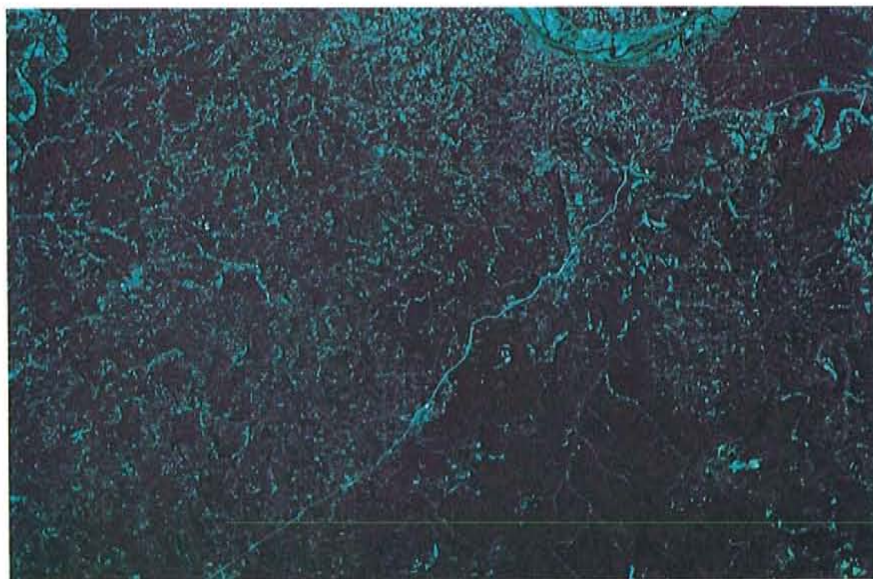
SL3-25-009

Figure 59a is a 4X enlargement of a black-and-white infrared image from multispectral camera station 1 (0.7 to 0.8 micrometer) over Minnesota near Minneapolis-St. Paul. The station 1 near-infrared spectral



b.

region is particularly well suited for enhancing surface water. Figure 59b is a thematic overlay that shows the distribution of lakes in the area.



SL2-09-143

Figure 60 is part of a multispectral camera color-infrared image of the Ozark Plateau southwest of St. Louis, Missouri. Note the clarity with which the distribution of infrared-reflective vegetation is displayed. Data of this type can also be processed

electronically or digitally. However, the primary point is that this kind of EREP data provides the user with a high-quality baseline for inexpensively displaying thematic information for regional planning and resource evaluation of a particular region.

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Line Map Revision—The standard Geological Survey topographic map series covering the United States is published in scales of 1:250,000, 1:62,500, and 1:24,000. Many were compiled from photographs acquired three years or more before printing. Many are more than ten years old. Although changes in topography are negligible, the cultural landscape is more dynamic. Because of rapid growth, cultural details on topographic maps (roads, urban patterns, transmission lines, and related features) are frequently out of date before the maps are printed. Therefore, they do not show current conditions. EREP photographic data are an excellent inexpensive source of revisions to line maps, i.e., updating,

improving, and correcting content to show the current status of an area. Information on changes in the cultural landscape can be valuable to planners, engineers, and resource managers in establishing high-quality updated baseline maps from which to monitor and forecast future environmental changes. Figure 61 shows how EREP data can be applied to update cultural details on a standard U.S. Geological Survey quadrangle map.

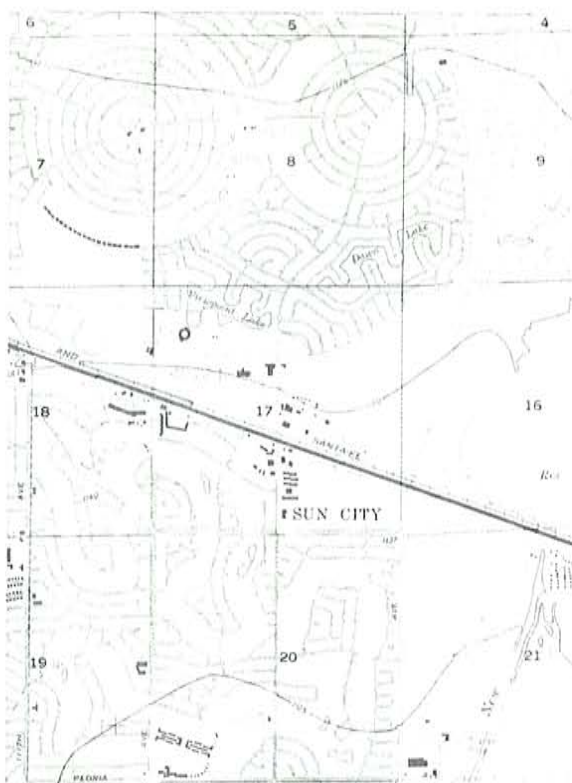
Changes in cultural details can easily be optically transferred from a photo to a map. The resulting revised base map provides an updated compilation that includes the latest changes.



a.

SL3-86-011

Figure 61a is a 1:50,000-scale enlargement of part of an earth terrain camera photo of Sun City, Arizona. Figure 61b is a 1957 1:24,000-scale topographic map of the El Mirage quadrangle, photo-revised in 1971. A



b.

point-by-point comparison of the EREP photo and the map readily reveals the changes in cultural detail, including new roads, streets, and urban developments that are not on the map.

Land Use Inventories

Most land use patterns visible in the landscape are the result of man's alteration of his natural environment to meet his needs. These patterns differ widely from place to place and are the tangible expressions of his ability to cope with local topography, climate, soils, natural vegetation, water supply, social organization, urbanization, and industrialization.

EREP data are particularly well suited to baseline land use investigations and displays of the results in photomaps, thematic or line maps for several purposes. First, a map of existing land use may be required for an inventory of a region to show, by useful classifications, the geographic considerations and dispersal characteristics of human occupancy. This inventory is often required as a tool for regional planning. Second, many broad indicators of land capabilities in a region can be derived from such a map. Remote sensing makes it most apparent that land use patterns show adjustments of cultural activities to prevailing physical and environmental conditions of an area. Therefore, a land use map is prerequisite to accurate compilation of a land resource capability map in areas where development is contemplated.

Classification Systems—Mapping land use in a given area requires establishment of mappable categories in accordance with a classification system that satisfies the specific objectives of the particular inventory. There are a number of decidedly different and inconsistent land use classification systems that encompass a wide variety of local and regional applications. It is often very difficult to fit interpretations of land uses from remote-sensor imagery into existing classification systems. Therefore, there is a growing appreciation of the advantages of developing standardized approaches to land use classification systems for urban and regional planning, as well as for other purposes, consistent with remote-sensing capabilities and characteristics. Land use information derived from interpretation of orbital remote-sensor data is particularly amenable to a standardized classification sys-

tem because a certain amount of flexibility can be retained to satisfy varying degrees or levels of interpretive detail.

A land use classification system that provides a standardized approach for use with remote-sensor data has been developed by the U.S. Geological Survey.* This classification system incorporates the best features of existing widely used classification systems to the extent that they are applicable to remote sensors on high-altitude aircraft and spacecraft. This system is open-ended so that regional, state, and local agencies, as well as planning consultants, can develop more detailed subclassifications at third and fourth levels to meet their particular needs. Table 9 summarizes the land use classification system in Circular 671. Note that the system includes only the more generalized first- and second-order classifications. However, it has the potential for further refinement for more extended and varied use and appears to be particularly well suited to EREP photographic and multispectral scanner data capabilities.

Discriminating Land Use Classification Levels

—The land use classification system in Circular 671 will be used to demonstrate EREP remote-sensor capabilities because it standardizes the more generalized first and second levels of classification. Land use data at Levels I and II are useful for regional and statewide land use inventories, as well as for land management decisions by many federal agencies. Further breakdowns beyond Level II can be made to meet the more detailed needs of local agencies for information to support land use planning, transportation forecasting, and environmental impact statements.

With EREP data, land use information can be derived either by conventional photointerpretation of the multispectral and earth terrain

* J. R. Anderson et al. *A Land Use Classification System for Use with Remote Sensor Data*. U. S. Geological Survey Circular 671. (Washington: U. S. Department of the Interior, 1972).

*Table 9 Land Use Classification System for Remote-Sensor Data**

Level 1	Level II
01. Urban & Built-up Land	01. Residential 02. Commercial Services 03. Industrial 04. Extractive 05. Transportation, Communications, & Utilities 06. Institutional 07. Strip & Clustered Settlement 08. Mixed 09. Open & Other
02. Agricultural Land	01. Cropland & Pasture 02. Orchards, Groves, Bush Fruits, Vine- yards, & Horticultural Areas 03. Feeding Operations 04. Other
03. Rangeland	01. Grass 02. Savannas (Palmetto Prairies) 03. Chaparral 04. Desert Shrub
04. Forest Land	01. Deciduous 02. Evergreen (Coniferous & Other) 03. Mixed
05. Water	01. Streams & Waterways 02. Lakes 03. Reservoirs 04. Bays & Estuaries 05. Other
06. Unforested Wetland	01. Vegetated 02. Bare
07. Barren Land	01. Salt Flats 02. Beaches 03. Sand other than Beaches 04. Bare Exposed Rock 05. Other
08. Tundra	
09. Permanent Snow & Ice Fields	

* J. R. Anderson et al, *A Land Use Classification System for Use with Remote Sensor Data*. U. S. Geological Survey Circular 671. (Washington: U. S. Department of the Interior, 1972).

camera imagery or by applying automated computer spectral-recognition techniques using computer-compatible tapes from the multispectral scanner. Depending on the level of detail required, EREP data provide enough spatial and spectral resolution (either singly or in combination) to permit discrimination of land uses beyond Level II and mapping at scales from 1:1,000,000 to 1:50,000.

Imagery from the multispectral and earth terrain cameras is well suited to establishing a baseline for regional land use inventories and analyses. Figures 62 through 66 are actual examples of the high degree of land use detail that can be obtained from EREP imagery.

Representative users—city and regional planners, land developers, private engineering consultants, etc—can readily appreciate the significance of this type of imagery in establishing a high-quality land use baseline for evaluating current and future trends.

Most EREP data for land use mapping will consist of imagery analyzed by conventional photointerpretation techniques. However, one cannot overlook the advantages of multispectral scanner digital data for certain operations

in automated land use mapping. The procedure for automated mapping uses spectral-recognition techniques as a basis for classification, as explained on page 43. Depending on specific user requirements, the output can consist of computer-controlled overlays on a standard base map or tabular printouts showing the area covered by each target category, including percent of total area.

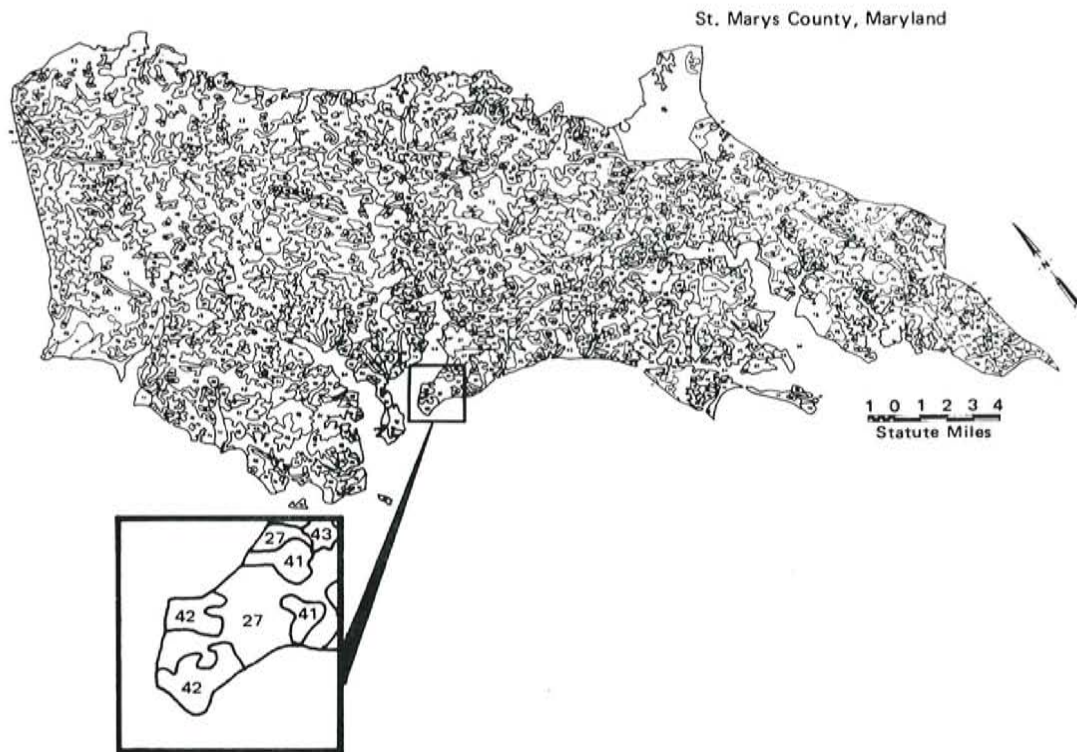
Although automated land use mapping with EREP scanner data is under development, preliminary results indicate that such data can successfully discriminate various Level I and some Level II land use categories. Figure 67 is an example of a land use printout prepared from automated processing of Skylab multispectral scanner data.

Correlation with Other Data—EREP data are best suited to providing a high-quality baseline of existing land use against which future changes can be measured by later surveys—from ERTS, aircraft, or ground observation. As previously shown in Table 7, the coordinated remote-sensor approach is most applicable to problems of land resource management and, in particular, to land use inventories.



(Courtesy Earth Satellite Corporation, Washington, D.C.)

Figure 62 is part of a multispectral camera black-and-white image from station 5 (0.6 to 0.7 micrometer) of Saint Marys County, Maryland.



(Courtesy Earth Satellite Corporation, Washington, D.C.)

Figure 63 is a regional land use map prepared from the photointerpretation of EREP multispectral camera imagery. It shows the capability of this type of

imagery for discriminating Level I and II land use categories in rural areas.

Legend

Urban & Built-Up Land

- 11 Residential
- 12 Commercial & Service
- 13 Industrial
- 14 Extractive
- 15 Transportation, Communication, & Utilities
- 16 Institutional
- 17 Strip & Clustered Settlement
- 18 Mixed
- 19 Open & Other

Agricultural Land

- 21 Cropland & Pasture
- 22 Orchards, Groves, Bush Fruits, Vineyards
- 23 Feeding Operations

Rangeland

- 31 Grass
- 32 Savannas
- 33 Desert Shrub

Forestland

- 41 Deciduous
- 42 Evergreen
- 43 Mixed Forest
- 44 Upland Shrubs

Water

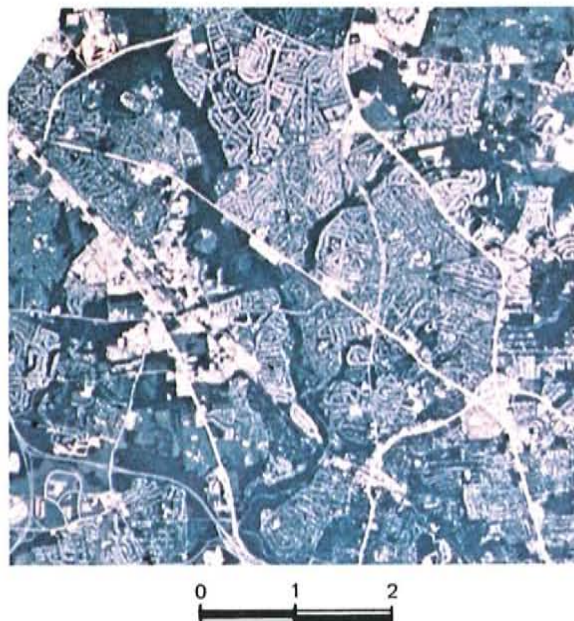
- 51 Streams & Waterways
- 52 Lakes
- 53 Reservoirs
- 54 Bays & Estuaries

Unforested Wetlands

- 61 Vegetated
- 62 Bare

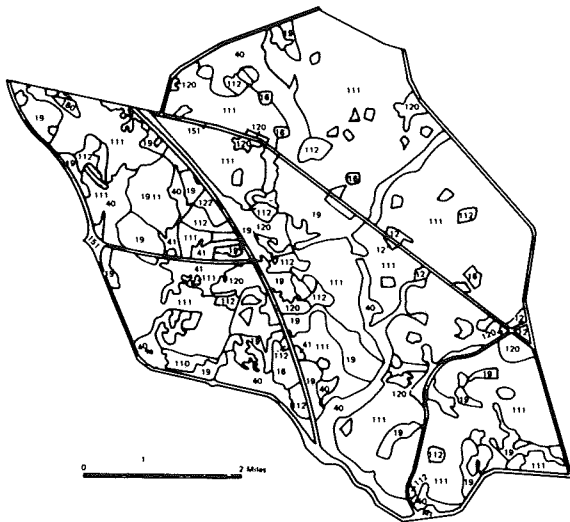
Barren Land

- 71 Salt Flats
- 72 Beaches
- 73 Sand other than Beaches
- 74 Bare Exposed Rock



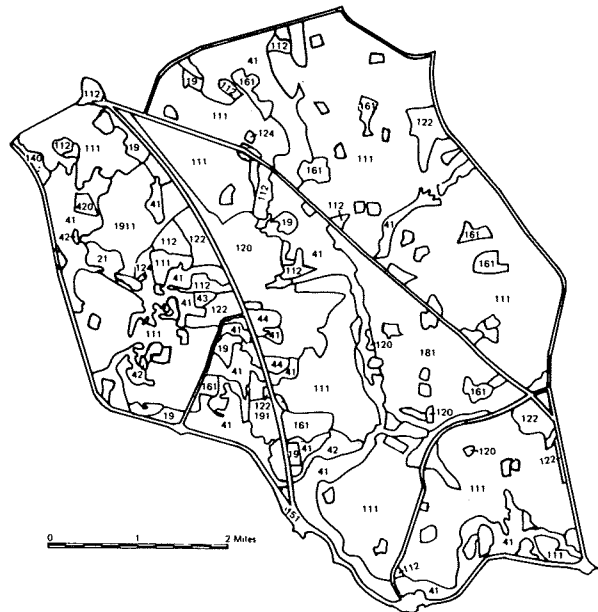
(Courtesy Earth Satellite Corporation, Washington, D.C.)

Figure 64 is an earth terrain camera high-resolution color image of suburban Washington, D.C.



(Courtesy Earth Satellite Corporation, Washington, D.C.)

Figure 65 is a land use map prepared from interpretation of earth terrain camera imagery. Note the degree of Level II and III land use detail that can be obtained from this type of imagery.



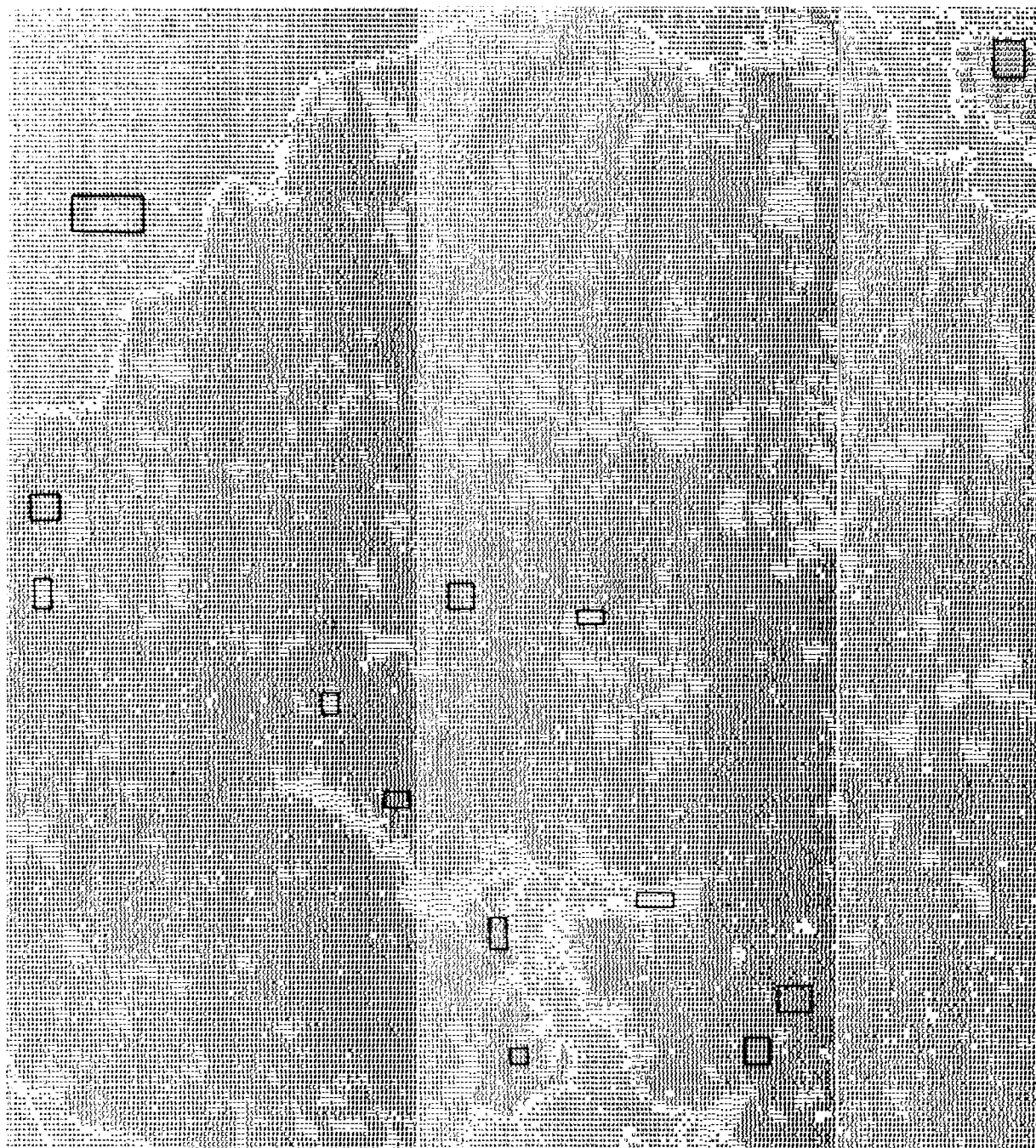
(Courtesy Earth Satellite Corporation, Washington, D.C.)

Figure 66 is a land use map of the same area as that in Figure 65. It was prepared from interpretation of high-altitude aircraft color-infrared imagery. The comparative level of land use detail of the two maps is remarkable.

Legend

- 1.0 Urban & Built up
 - 110 Residential
 - 111 Single-unit
 - 112 Multiple-unit
 - 113 Mobile-home & trailer parks
 - 120 Retail & wholesale services
 - 121 Retail sales & services
 - 122 Wholesale & services
 - 124 Recreational facilities
 - 130 Industrial
 - 140 Extractive
 - 150 Transportation
 - 151 Highways
 - 152 Railroads
 - 153 Airports
 - 160 Institutional
 - 161 Schools
 - 162 Medical
 - 163 Religious
 - 164 Military
 - 170 Strip & clustered
 - 190 Open & other
- 2.0 Agricultural Land
 - 210 Crop & pasture
 - 211 Cropland
 - 212 Pasture
 - 220 Orchards
 - 230 Feeding operations
 - 231 Cattle feedlots
 - 232 Poultry & egg houses
 - 233 Hog feedlots
- 4.0 Forest Land
 - 410 Deciduous
 - 420 Evergreens
 - 430 Mixed
 - 440 Upland brush
- 5.0 Water
 - 510 Rivers
 - 540 Bays & estuaries
 - 560 Ocean
- 6.0 Wetlands
 - 610 Vegetated
 - 620 Unvegetated

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(Courtesy Earth Satellite Corporation, Washington, D.C.)

Legend

W Water
U Urban
C Cropland
S Bare Soil

Deciduous
— Evergreen
\$ Mixed Forest
• Wetlands

Figure 67 is a land use map of the Chesapeake Bay area prepared by computer processing of four multi-spectral scanner bands: 0.41 to 0.45 micrometer (blue), 0.75 to 0.90 micrometer (near-infrared), 2.00 to 2.43 micrometers (midinfrared), and 10.2 to 12.5

micrometers (thermal infrared). The eight basic land use classes shown are a mixture of Level I and II categories. The performance accuracy for automated recognition of the various categories is 85 percent.

EREP multispectral and earth terrain camera imagery, interpreted either singly or in combination, can be used to inventory land uses with enough detail to satisfy a variety of regional and intermediate-scale mapping requirements. A repetitive data source like ERTS also provides the added capability for regional updating of the land use baseline as

well as for focusing on specific areas that will require detailed analyses from conventional aircraft photography.

Figure 68 illustrates the use of EREP imagery in conjunction with correlative ERTS and aircraft data in a systematic approach to enhancing the capability for land use mapping.



a. 1062-15190-5



b. SL3-23-195



c. SL3-83-166



d.

Figure 68 covers the Baltimore-Washington area in four separate sensor modes and was selected because the individual scenes provide different resolutions, photo scales, and ground coverages in a mixed urban and agricultural environment. Note how the intricate detail and interpretability of the road intersections at A, B, and C, on the ERTS frame (Figure 68a) are successfully enhanced on the corresponding EREP multispectral camera image (Figure 68b) and correla-

tive earth terrain camera image (Figure 68c). By contrast, the most recent ERTS image acquired over this area, although lower in resolution than the EREP imagery, can be used to update regional land use from the EREP baseline. Also note the ability of high-resolution high-altitude aerial photographs (Figure 68d) to permit detailed interpretation of local land use in the specific area identified by previous interpretation of the EREP and ERTS imagery.

Land Resource Evaluation

A fundamental requirement of regional planning and development is evaluation of land resource potential so that an optimum use can be assigned to meet social, economic, and cultural needs, as well as to protect the environment. Land resource potential, or land capability, affects basic decisions concerning the reservation of land for its best use. For example, a particular parcel of land could be well suited to recreation, mineral exploration, agriculture, or some other limited human use

based on its resource potential. Use of this parcel should be influenced by its existing topographic, geographic, and cultural surroundings. Evaluation of physical characteristics of terrain in conjunction with existing land use is prerequisite to defining the best locations for continued and orderly urban growth, new community development, transportation corridors, airports, commercial and industrial expansion, etc.

EREP imagery is applicable to regional land resource studies because relationships of important terrain features (topography, drain-



SL3-88-230

Figure 69 is an earth terrain camera color image of part of Lake Huron near Saginaw Bay, Michigan. The varying agricultural land use in this region is

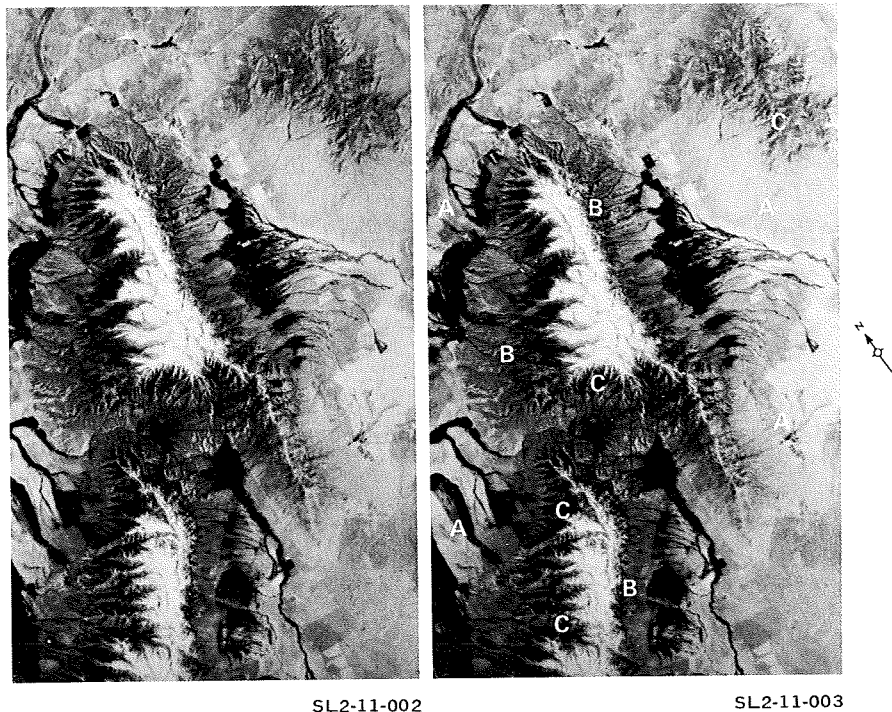
related to different lacustrine soils associated with former lake levels shown by the partially concentric patterns.

age, and soil) to existing land use are plainly visible in the photographs. Figure 69 is an example of land use adapting to prevalent terrain conditions.

When terrain features are interpreted for specific landform types, pertinent characteristics of slope, ruggedness, surficial geology and soils, and geologic structure of a particular region can be derived. Identification of landform is the primary means of interpreting and analyzing the technical qualities of terrain. Therefore, a thorough understanding of landform evolution and development is required to evaluate resource potential or land development capability of an area in an EREP photograph. For example, the user must know how the several constructional landforms differ in size, slope, shape, drainage,

and macrofeatures. He must be able to distinguish between depositional landforms, commonly consisting of young unconsolidated sediments, and landforms that consist primarily of consolidated and partly consolidated rocks. Examples that demonstrate EREP's potential applicability to interpretation of pertinent land resource attributes are presented in the following sections.

Regional Topography and Slope—Interpretation of regional topographic characteristics in EREP imagery is best accomplished by stereoscopic viewing. With the aid of stereo viewing, terrain characteristics like steepness and ruggedness can be rapidly analyzed in areas that extend over thousands of square miles, as well as in areas that are inaccessible or not covered by existing topographic mapping (Figure 70).



SL2-11-002

SL2-11-003

Figure 70 is a stereogram of part of a high-resolution multispectral camera image (station 5) of northeastern Nevada near Elko. Most of this region is covered only by 1:250,000-scale topographic maps. Therefore, EREP imagery of this type is extremely useful for evaluating regional relief characteristics. For example, stereoscopic examination of this image enables one to differentiate (at a minimum) three descriptive categories of regional topography—level, moderate or rolling, and steep. The topography at A is level, having essentially flat or gently undulating

planar surfaces with very low local relief and slopes from 0 to 10 percent. Alluvial plain surfaces are included in this category. The area at B is of moderate relief with predominantly rolling slopes from 10 to 30 percent and relief varying from 160 to 980 feet (50 to 300 meters). Areas near C have steep slopes and appreciable local relief well in excess of 980 feet (300 meters). In terms of potential regional development, the area at C presents serious engineering and construction problems.

Drainage Basin Delineation—Information pertaining to surface drainage of an area is extremely valuable for overall land use planning, regional development, and environmental monitoring. Drainage areas are easily determined on EREP imagery by either monoscopic or stereoscopic viewing. In addition to permitting mapping of primary, secondary, and tertiary drainage networks, the synoptic view from EREP imagery allows the user to see individual boundaries of drainage basins and macrowatershed areas. Such information is often necessary for assessing the availability of water for potential agricultural, urban, and industrial development, as well as for provid-

ing regional baseline data for future transportation corridors and related planning.

Because of their greater contrast on film, land-water boundaries are better distinguished from EREP black-and-white infrared and color-infrared photographs than from other types of film. The contrast between water bodies and vegetation, for example, is maximum in the near-infrared wavelengths because of high absorption by the water and high reflectance from the foliage. This provides the best prospect for detection of drainage channels in forested or heavily overgrown areas like those shown in Figures 71, 72, and 73.



(3X)

SL3-27-095

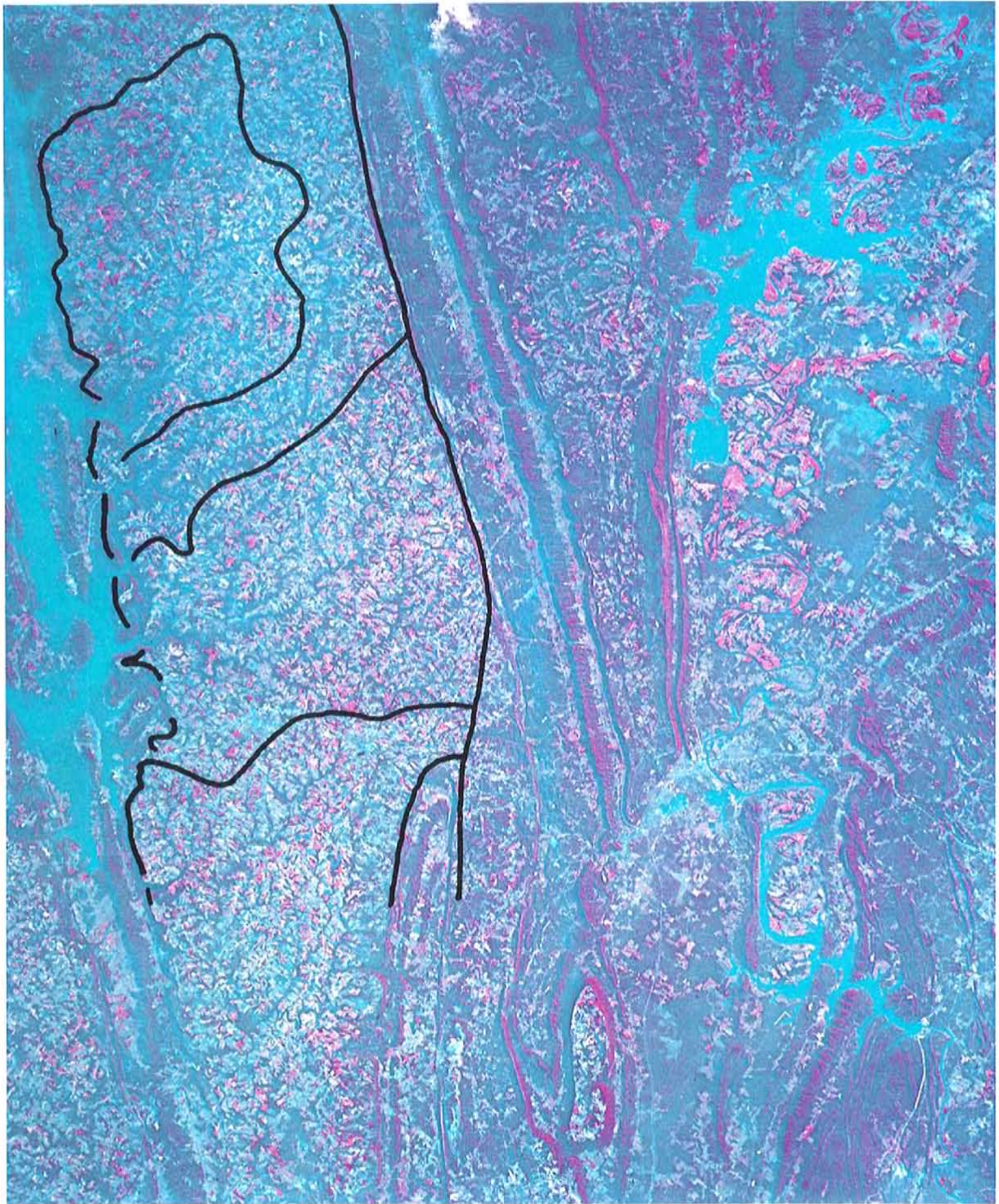
Figure 71 is from the color-infrared station (3) of the multispectral camera and covers the tropical rain forest of part of the Amazon River Basin. Note the clarity of the Rio Ucayali and the numerous oxbow lakes (A and B), meander scars (C), and partially braided channel (D) associated with its flow. Compare the amount of drainage detail available in this image with that in the simultaneous color multispectral image (station 4) of the same area shown in Figure 72, particularly the oxbow lakes at A and B.



(3X)

SL3-28-095

Figure 72 is a color multispectral image of the area shown in Figure 71.



SL3-87-276

Figure 73 is part of an earth terrain camera color-infrared image of the Gunthersville Lake and Coosa River area of Alabama. The stereoscopic interpretation of this imagery permits mapping of first-, second-, and third-order drainage detail and delineation of individual drainage-basin and watershed areas associated with Gunthersville Lake. The solid lines shown on this image are the macrowatershed boundaries of the region, derived from interpretation of EREP imagery.

tion of individual drainage-basin and watershed areas associated with Gunthersville Lake. The solid lines shown on this image are the macrowatershed boundaries of the region, derived from interpretation of EREP imagery.

Floodplain Delineation—Regional planning and development require complete information regarding the distribution and extent of floodplains because regions susceptible to flooding could present serious engineering and construction problems. EREP photographs are particularly well suited to floodplain

delineation and establishment of a regional baseline map against which future changes can be measured. Black-and-white infrared and color-infrared photographs provide the best means of determining floodplain characteristics. Figures 74 and 75 demonstrate EREP's capabilities for floodplain delineation.



SL2-09-143

Figure 74 is a color-infrared image of St. Louis showing the confluence of the Missouri, Mississippi, and Illinois Rivers. Note the ease with which floodplain boundaries of individual river valleys can be

plotted. This image is of particular interest because it was taken after heavy flooding during the late spring of 1973. The bluish areas in each of the flood plain zones indicate land inundated by extensive water.



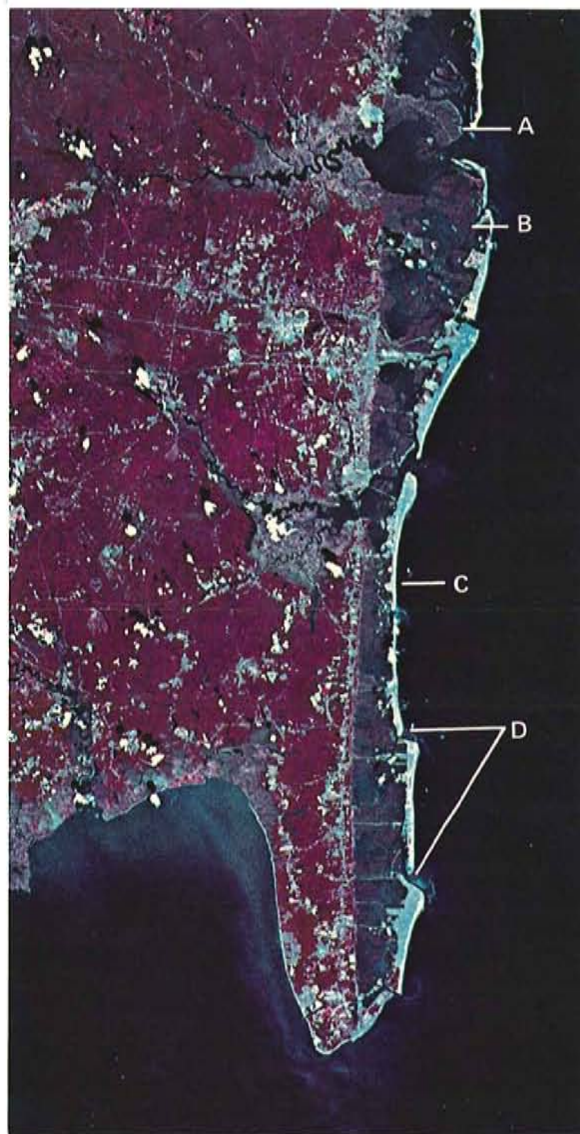
SL4-62-388

Figure 75 is a multispectral camera black-and-white infrared image of a portion of the Mississippi alluvial plain near Vicksburg, Mississippi. The boundary between the flood plain and the intricately dissected upland surface (A) is readily apparent. Also note the numerous oxbow lakes and abandoned stream courses, indicating former channels of the Mississippi River.

Wetlands Delineation—Management problems with coastal and inland wetlands are coming into sharp focus in an era of public concern for the environment. The increased pressure for urban and industrial development of these areas has created an urgent need for intelligent and realistic management of this resource, which is extensive but difficult to manage. As the term implies, wetlands are areas that have their ground water table at or near the surface throughout most of the year. In areas where new development is contemplated, this condition could create engineering hazards for excavations, foundations, highway construction, underground utilities, and contribute to environmental degradation.

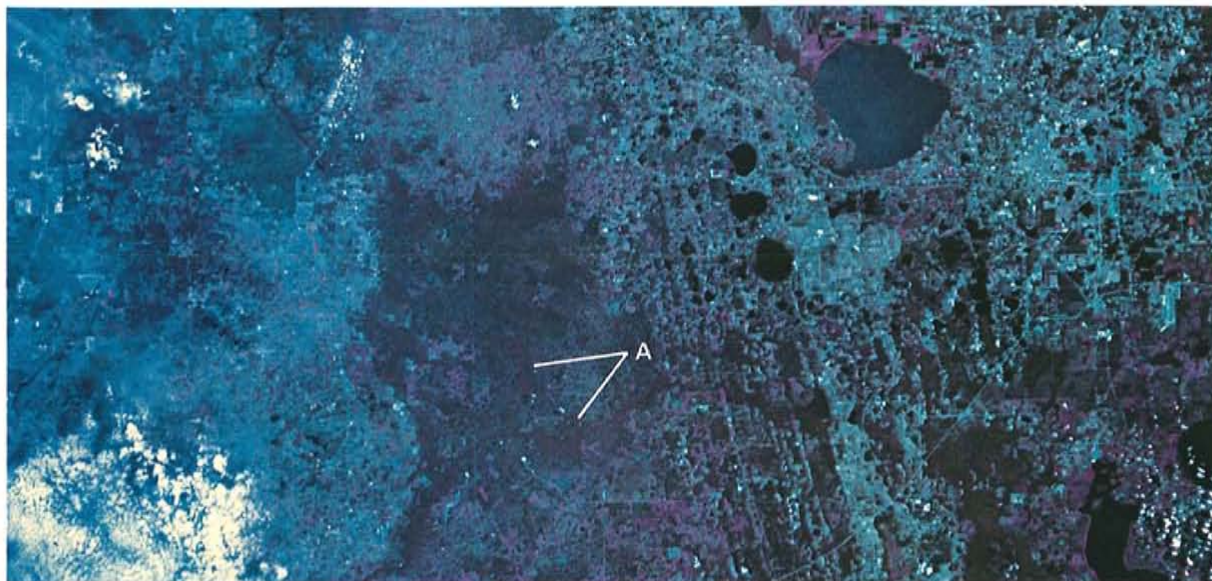
Remote sensing provides a powerful tool to meet critical management needs for inventorying and classifying wetlands. EREP imagery, in particular, is well suited for determining regional wetland areas and establishing a baseline inventory for repetitive monitoring of future changes with ERTS or conventional aircraft imagery. For an overall wetlands

inventory, use of color-infrared imagery from multispectral camera station 3 or earth terrain camera color-infrared imagery is recommended because of improved differentiation of land and water on such film. Figures 76 and 77 are representative multispectral camera color-infrared images of coastal and inland wetland areas, respectively. Note the varying degrees of cultural development immediately adjacent to each of these wetlands.



SL3-39-125

Figure 76 shows the New Jersey coast and the wetlands (A), tidal channels (B), barrier islands (C), and tidal inlets (D) that characterize this portion of the Atlantic coastal plain.



SL2-15-280

Figure 77 shows an inland wetland region in the coastal plain of west-central Florida. The area at A, character-

ized by a deep red, is a poorly drained swamp, consisting primarily of cypress trees and scrub.

Geology and Surficial Materials—In recent years, there has been increased emphasis on the need for proper land development planning. Efficient land development requires a thorough knowledge of the geologic environment and an engineering evaluation of its influence on construction methods and costs. Regional land development studies, based on accumulation of geologic data by remote sensing, can be implemented through EREP imagery. Chapter VI (page 138ff) briefly discusses the use of EREP imagery for geologic engineering. It should be emphasized that, from the standpoint of regional planning and development, EREP data are particularly applicable to determining regional geologic hazards that could affect engineering and construction. Such hazards may include fault zones and zones of intensive fracturing, areas characterized by poorly drained surficial materials and subject to flooding, areas of bedrock, highly erosive areas (badlands, wind-blown silts), and areas subject to slope instability or ground collapse.

The major advantage of EREP data for geologic engineering is that it enables the user to evaluate large areas on a regional basis and, in turn, permits him to isolate specific high-

priority or problem areas that require more detailed analysis by conventional aircraft imagery or selective field investigations.

Mineral Exploitation Effects—Numerous frames of EREP imagery show the effects of mineral exploitation (strip and open-pit mining, quarrying) on the environment. Determining the areal extent and distribution of these mining activities can provide regional baseline data for monitoring future operations.

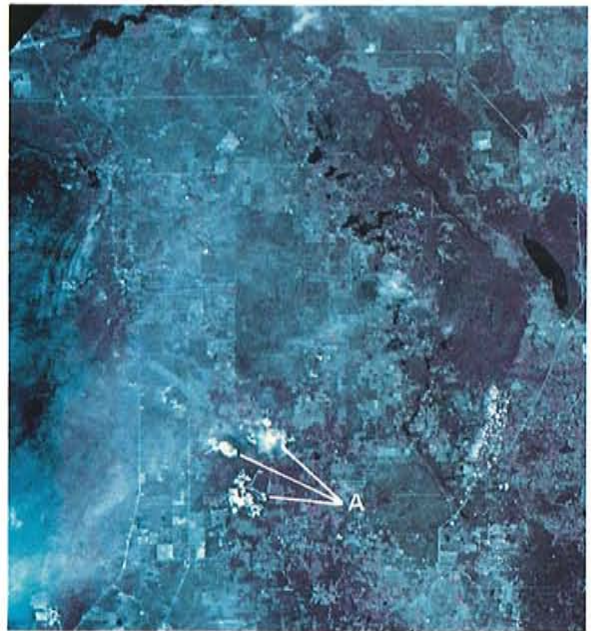
EREP data can also be used to establish a regional land resource inventory showing terrain conditions before future mineral exploitation and extraction operations. A case in point is a land resource inventory of existing land resources in Colorado's western slope and Utah's Uinta Basin in advance of oil shale mining and processing. With such an inventory, public officials, private interests, and the industries involved will be in a favorable position to evaluate the future environmental impact of activities planned for these areas.

Figures 78 through 80 show examples of mineral extraction appearing on EREP imagery. Note the clarity with which each surface mining operation is displayed.



SL3-83-300

Figure 78 is a portion of an earth terrain camera color image of Bingham Canyon, Utah. The large open-pit copper mine is readily visible at A, as are the mine tailings at B.



SL2-15-280

Figure 79 is a color-infrared multispectral camera image over a portion of west-central Florida. The highly reflective areas at A are three large limestone quarries that supply much-needed construction aggregate to engineering projects in this rapidly growing region.



a.

SL3-47-283

Figure 80 shows the extent of coal strip mining (A) in the Appalachian plateau near Birmingham, Alabama. Figure 80a is part of a black-and-white multispectral camera image from station 5. Compare the level of



b.

SL4-93-152

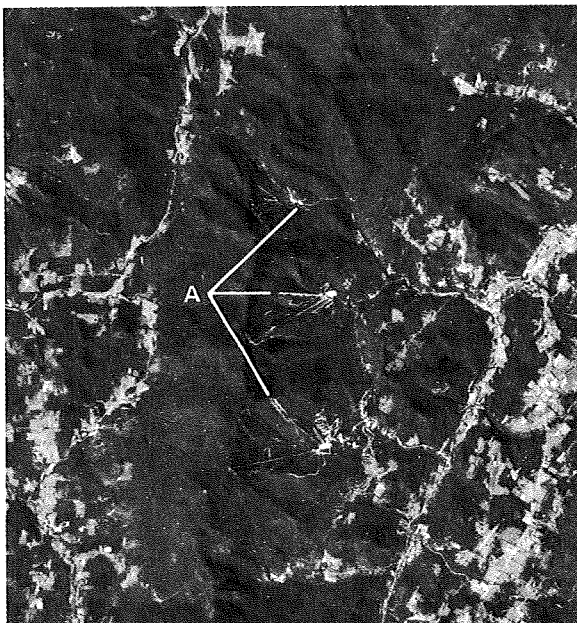
detail here with that on the high-resolution color-infrared earth terrain image covering the same area in Figure 80b.

SUMMARY OF POTENTIAL USES FOR LAND RESOURCE MANAGEMENT

It is obvious from the preceding discussions that evaluations of land resource potential of a particular region involve many different but related disciplines. EREP has provided the users—federal, state, regional, or local government planning officials; land, mineral or other resource developers; private engineering consultants, real estate developers, or informed citizens—with high-quality data from which they can derive and portray regional land resource information to meet their particular needs. Depending on the level of detail required, this information can vary from a simple 4X enlargement of an EREP multispectral camera color image on a real-estate office wall, or a base map showing existing land use, to a comprehensive regional data base containing a multitude of interpreted, derived, and compiled land-resource physical and cultural attributes of a particular region. Regardless of whether the information

was derived strictly from interpretation of EREP data or analyzed in conjunction with data from other sources, EREP data can provide a valuable baseline for the following land resource management applications.

- *Regional Planning Overview*—This provides the user with an orientation for understanding the spatial context in which he is working and has far-reaching applications in administering and monitoring urban expansion into rural areas, formulating orderly growth plans (including zoning decisions and new community development), and planning green-belt (open-space) areas.
- *Engineering and Environmental Impact Overviews*—These provide the user or decision maker with a means of determining existing land use and regional land resource information for assessing potential in transportation planning, resource management and development, economic development, and recreational facilities planning. Figures 81 and 82 are examples.



SL3-85-353

Figure 81 is an earth terrain camera high-resolution black-and-white image showing ski areas (A) in the Green Mountains of Vermont.



SL2-82-215

Figure 82 is an earth terrain camera high-resolution black-and-white image showing area development associated with Disney World in Florida.

- *Uses for Communication*—EREP photographs are a highly effective tool for informative communication. Whether viewed on a light table, enlarged, projected on a screen, or enhanced to more readily bring out specific types of regional land resource features, EREP photographs are a means of conveying information to a diverse group of users—policy-making officials, legislators, planners, county commissioners, as well as private industry and informed citizens.

PRODUCT SUMMARY

Planning and development of land resources require an intimate knowledge of the land—its physical characteristics, present use, capabilities, and limitations. Depending on the size of the area, its map scale, and the type of data needed, EREP can provide land resource managers with the following end products:

- Photomaps and mosaics consisting of photographs processed to a specific scale or, if required, containing certain cartographic annotations to enhance detail. Map scales can range from 1:500,000 to 1:50,000;
- Thematic maps showing the location and distribution of particular features such as water, vegetation, urban buildup, with scales from 1:1,000,000 to 1:100,000;
- Revised line maps of updated selected planimetric information to show the current status of an area. Map scales can range from 1:250,000 to 1:24,000;
- Regional land use maps showing inventories of existing conditions in accordance with Level I, II, or more detailed categories of classification, depending on requirements. Maps range in scale from 1:1,000,000 to 1:50,000 and provide a baseline inventory against which future changes can be measured by the use of repetitive ERTS, aircraft, or other data sources;
- Regional maps of land resources showing, either singly or in combination, physical attributes of regional terrain (topography and slope, drainage and drainage basins, wetlands, floodplains, surficial geology, geologic hazards, vegetation) that could affect future decisions regarding regional planning and development, including engineering and construction.

IV. WATER RESOURCES

Investigations of water resources can benefit from the use of satellite data. High resolution is not required for a general assessment of quantity of surface water on a regional scale. Furthermore, the spectral information in narrowband photographs and scanner data is useful for discriminating varying water quality. Surface water is nearly always accompanied by a distinctive pattern of vegetation, which is often a conspicuous feature in infrared photographs. Maps that include water-land boundaries can be quickly and efficiently updated using infrared photographs because infrared wavelengths are strongly absorbed by water, making the boundaries distinct. By contrast, the bottom topography of shallow lakes can be more easily interpreted using the shorter wavelength bands of blue and green light. Thermal imagery from channel 13 of the multispectral scanner will be useful for determining relative water temperatures.

Earth Resources Experiment Package (EREP) data are well suited to many aspects of water resource studies. In particular, properties that are relatively unchanging—the regional character of drainage patterns and flow directions, landforms, fracture patterns, and soil types—can be effectively analyzed using EREP images. Even aspects of dynamic qualities like stream and lake pollution can be evaluated wherever relatively permanent patterns can be established.

WATER QUALITY

A baseline estimate of the quality of large bodies of surface water can often be made using EREP photographs. Figure 83 shows a multispectral camera photo of Lake Michigan near Chicago, plus two different enhancements with striking results.

A group from the Universities of Wisconsin and Minnesota has investigated the existence of semipermanent sedimentation patterns in the southwestern end of Lake Superior at Duluth.* They reported that aerial photographs and ERTS images were used to study the lake's turbidity and recommended using satellite imagery in future engineering design studies (Figure 84).

Figure 85 shows how orbital photographs can be used to compare relative turbidity in nearby lakes. A general correlation can be drawn between turbidity and reflectance.

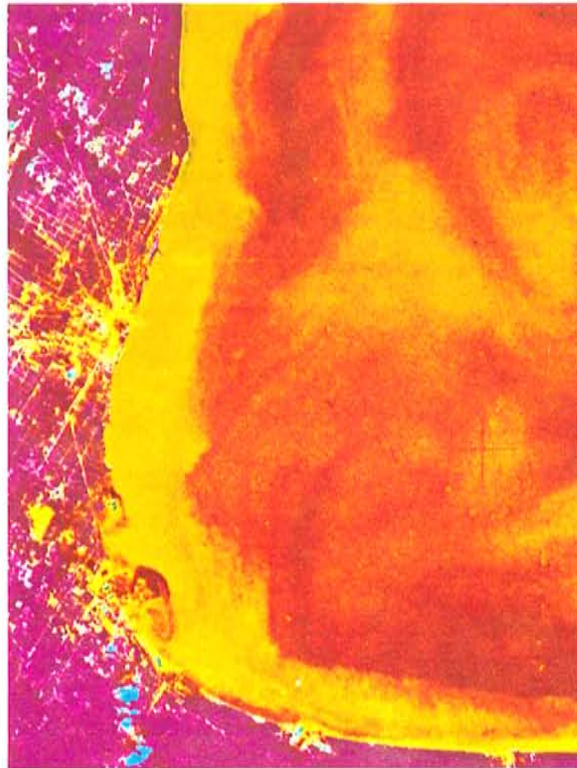
* James P. Scherz and John F. Van Domelen: Lake Superior Water Quality near Duluth from Analysis of Aerial Photos and ERTS Imagery," *Remote Sensing and Water Resources Management*, Proc. No. 17 (Urbana, Illinois: American Water Resources Association, 1973) p 147ff.

James P. Scherz, Michael Sydor, and John F. Van Domelen, "Aircraft and Satellite Monitoring of Water Quality," Paper E-9, *Third ERTS Symposium Abstracts*, (Greenbelt, Maryland: NASA, Goddard Space Flight Center, 1973).

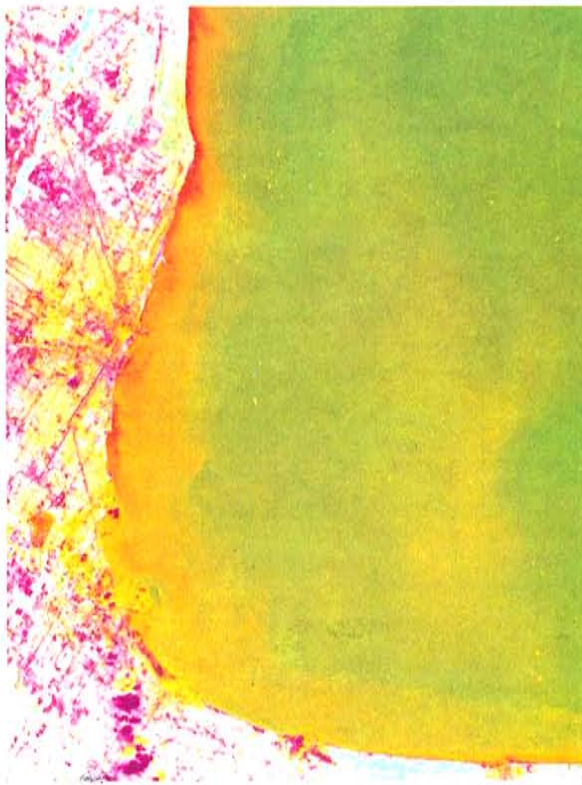


a.

SL3-46-199



b. (Courtesy Itek Optical Systems Division, Lexington, Mass.)



c. (Courtesy Itek Optical Systems Division, Lexington, Mass.)

Figure 83 is a sequence of pictures that demonstrates two applications of density slicing and image ratioing to an EREP multispectral camera color photograph of sediment entry and dispersal from the Chicago waterfront into Lake Michigan. The technique can selectively enhance deep-water circulation patterns, as in Figure 83b, or the suspended matter in water close to the shore, seen in Figure 83c. Note the river outfalls and general beach turbulence portrayed in red in Figure 83c.*

* Unless otherwise noted, figures show only part of an EREP photograph—multispectral camera photos enlarged 4X and earth terrain camera photos 2X.

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a.

1020-16252-5



b.

SL2-5-384

Figure 84 shows the southwestern end of Lake Superior near Duluth and demonstrates the value of satellite imagery in recognizing persistent sediment patterns in large lakes. Analysis of the ERTS image (Figure 84a) shows a direct correlation of image

reflectance with turbidity concentrations measured on the lake. The EREP multispectral camera photo (Figure 84b), made in 1973, shows the constancy of the flow pattern in the two images taken about a year apart.



SL2-28-054

Figure 85 is a multispectral camera photo of the Nevada-California border area near Honey Lake that provides an instantaneous appraisal of the relative turbidity of several lakes. Eagle Lake, near the top of

this view, has the lowest reflectance and, presumably, the lowest turbidity. Observations like this can help appraise the rate of reservoir sedimentation.

An indirect approach to determination of water quality involves careful study of land use patterns as seen in satellite photographs. Once the patterns are determined with some degree of confidence, the sources and types of pollution or sediment may be inferred. Figure 86 is an interesting study of sedimented water entering Cobequid Bay, an arm of the Bay of Fundy in Nova Scotia.

See Chapter VIII (page 161ff) for further discussion of the application of EREP data to the study of water quality.



SL3-46-315

Figure 86 is a multispectral camera photo that shows heavily sedimented water entering Cobequid Bay. In the corresponding color-infrared photo (not shown), the sediment appears in shades of green and gray, not red or pink that would indicate algae or other high-chlorophyll substances. (See Figure 147 on page 168.)

WATER INVENTORY

EREP photographs lend themselves to baseline inventories of stored water in lakes, reservoirs, rivers, and snowfields. Not only can surface areas be established fairly accurately, but depths of shallow water bodies can be estimated with some precision. An inventory of the number and size of small dams and ponds visible in EREP photographs will provide a useful basis for comparing similar data acquired in the future. There is still no proven method of estimating the water content of snow using remotely sensed data. However, it is possible to see the contour of snow cover from EREP photographs. During snowmelt in the spring, this information can sometimes be used to estimate the depth of the remaining snow and ice.

Observation of river ice (Figure 87) is important to transportation and flood prediction.



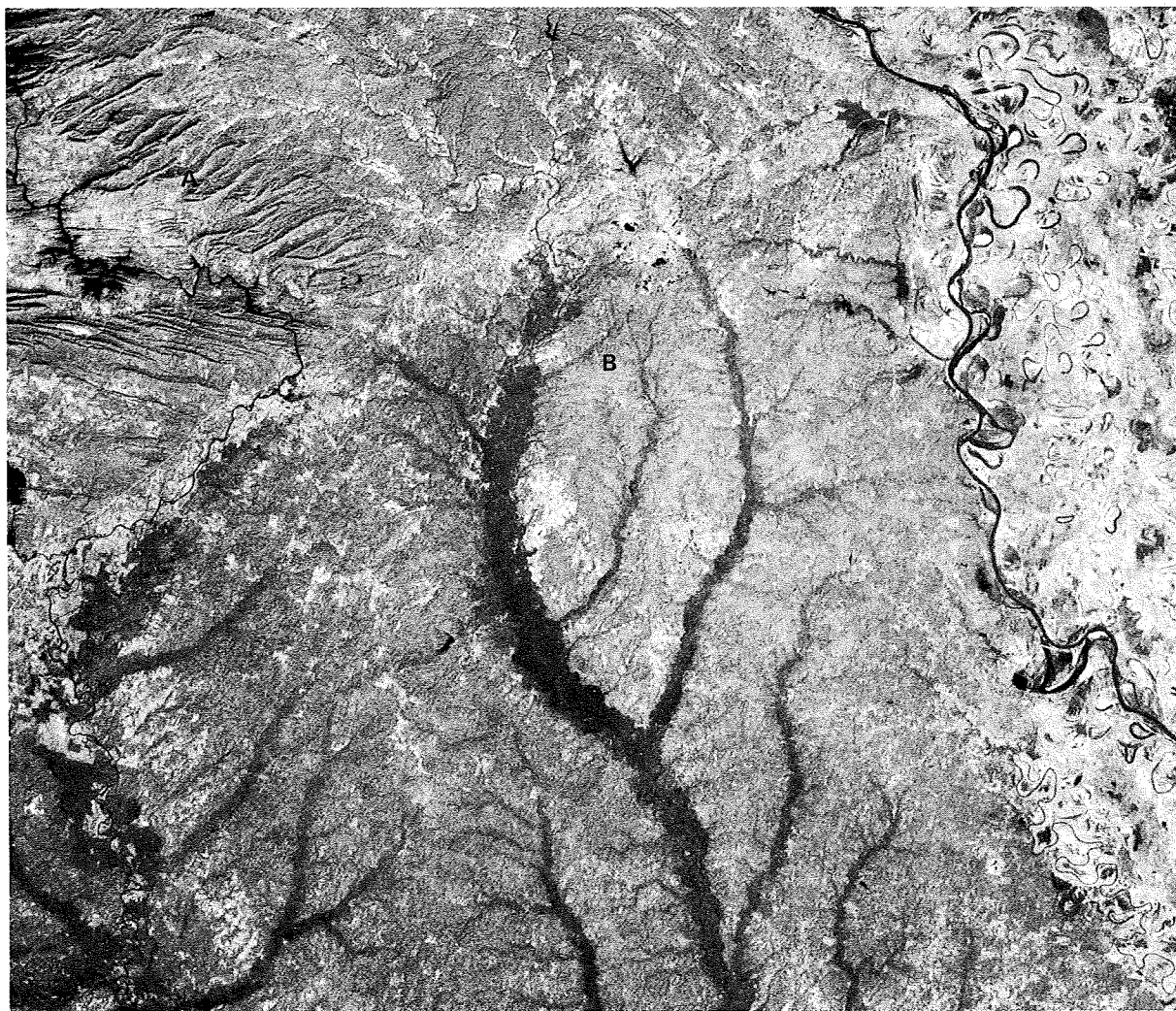
SL4-93-223

Figure 87 shows large ice masses up to four miles long in the Illinois River north of Peoria as photographed by the earth terrain camera in late January 1974.

Runoff predictions are facilitated by mapping surface hydrologic features, and measurements of the area of a watershed can be made on EREP images. Runoff potential of discrete subareas can be estimated from observation and interpretation of landform features. Moreover, because landforms are relatively unchanging, valid assessments of hydrologic influences on future runoff can be made from stereoscopic interpretation of EREP photographs. Among the hydrologic features avail-

able for interpretation in EREP photographs are:

- The type and manner of development of stream channels and their relationships to entire drainage systems—three drainage types are seen in Figure 88;
- An appraisal of the degree of recent stream changes in a watershed—note the recently abandoned channels of the Arkansas River in Figure 88;



SL4-A1-352

Figure 88 is a photo from Station 1 of the multispectral camera (0.7 to 0.8 micrometer) of north-central Arkansas in which three major drainage types are well exemplified: 1) A subsequent drainage type has developed in the folded sedimentary strata of the Ouachita Mountains as seen at A; 2) Dendritic

drainage is well established in the mature coastal plain near the Ouachita River at B; 3) The modern floodplain of the Arkansas River with its attendant oxbow lakes and abandoned meander channels occupies the right-hand, or eastern, part of the photo.

- Size and status of flood plains, especially whether cultural developments or natural catastrophes have disrupted the function of the flood plain—this can be seen in Figures 74 and 75 (pages 80 and 81);
- Soils and vegetation associated with various segments of the watershed—any recent

changes like logging would also be visible;

- Agricultural patterns and other land uses that might contribute to future runoff—for example, certain farming practices like those pictured at C in Figure 89 contribute to stabilization, while urbanization generally increases runoff downstream.



SL2-81-021



SL2-81-022

Figure 89 consists of earth terrain camera photos of the southeastern San Juan Mountains east of Durango, Colorado. Vallecito Reservoir is at the top. Annotations on the photo refer to an area of mixed alluvium and glacial material at A that is an excellent shallow aquifer. A conspicuous outcrop of tilted sedimentary rocks at B is a recharge area for deep confined

aquifers farther from the mountains, toward the sedimentary basin. In an area at C, farming practices influence the amount of sediment entering the streams that drain the region. In the unstratified igneous and metamorphic rocks of the high, snow-capped mountainous areas, ground water would only occur in fractures (faults and joints).

WETLANDS

Coastal lands, estuaries, and wetlands can be effectively studied using the color and color-infrared as well as black-and-white infrared photographs from the multispectral camera. The infrared wavelength components of sunlight are preferentially absorbed by water, thus causing wet areas and standing water to appear darker. In this way, boundaries of streams, lakes, and wetlands can be more easily delineated. Major drainage channels and lagoonal developments can also be located and mapped. Black-and-white infrared images from station 1 (0.7 to 0.8 micrometer) of the multispectral camera are ideally suited for discrimination of water-land boundaries (Figure 88).

Color-infrared photographs are useful in another approach to the study of wetlands.

Growing, healthy vegetation has high infrared reflectance and the color-infrared film, being sensitive to this reflected infrared component of sunlight, portrays vegetative patterns in shades of pink and red. Careful analysis of EREP photographs permits discrimination of gross vegetative types (Figure 90), estimates of acreage by species and the relative vigor of adjoining vegetated tracts, as well as recognition of new construction areas. It is expected that species discrimination can be made automatically by computer reduction of the digital 13-band multispectral scanner data.

Wetlands tend to evolve into dry land areas through the natural process of sediment deposition from the influx of flood waters. The Earth Resources Laboratory at NASA's Mississippi Test Facility has used EREP color-infrared photographs to discriminate sedimented river water from natural lake water and thereby monitor depositional encroachment.



SL3-87-260

Figure 90 is an earth terrain camera color-infrared photo of the Atchafalaya wetlands in Louisiana that

is useful for observation of sediment entry into wetlands areas.

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GROUND WATER

Proper development of ground water is of major significance to economic growth and a factor that places an upper limit on that growth. The total amount of ground water in storage is relatively fixed but, in the more heavily populated regions, is slowly decreasing as more water is being withdrawn and consumed than is being put into the aquifer. Such conditions require that water sources be located and developed through modern techniques. To plan effectively for the future, regional ground-water conditions must be determined and potential resources appraised.

Exploration for ground-water aquifers and assessment of their potential productivity can be facilitated by the use of satellite data. A proper understanding of the geologic and geomorphic framework of any region is vital to proper exploration, development, and conservation of water resources. The elements of lithology and geologic structure as they affect the occurrence and exploitation of ground water are considered here.

Lithology

The lithologic character of an aquifer includes the type and character of the rocks that transmit and store the water. Hard, crystalline, granitic and metamorphic rocks generally carry water only in fractures that are open in varying widths ranging from tenths of a millimeter to a few centimeters. Obviously, the specific location of rock fractures is critical in selecting prospective well sites in crystalline rock terrain. Fresh water can sometimes be produced from depths of up to several hundred feet from fractured crystalline rock in a suitable recharge environment. Crystalline rocks are fairly easy to discriminate in satellite photographs. Typically, homogeneous, often forested, and unstratified ter-

rain forms the mountainous, snow-capped areas in Figure 89 (page 92).

Sedimentary rocks like sandstones, limestones, and shales that occur in more or less regular layers are poor to excellent aquifers, depending on their porosity, permeability, and the extent to which they are subjected to water recharge. Porous and permeable sandstones generally make excellent aquifers, among the most productive and reliable over the years, while shale formations are usually impervious and devoid of ground water except where heavily fractured. In fact, shale formations often act as containing barriers above and below more porous rocks, thus causing hydrostatic pressure to build up to create artesian conditions. Depending on the extent of solution activity and resultant cavities in the rock, limestone formations are extremely variable in their aquifer characteristics. Generic types of sedimentary rocks can often be inferred by careful observation of their weathering characteristics. Two sandstone formations separated by a softer shale formation can be seen as the looping, parallel structures extending from lower left to upper right at B in Figure 89 (page 92).

Volcanic rocks are unpredictable as aquifers, but their potential is enormous under the right conditions. Volcanic terrain is generally quite distinctive in the EREP photographs and can be seen in Figure 91.

Alluvial materials, consisting of sand, gravel, and rock detritus, are the most productive shallow aquifers. The unconsolidated material is commonly found near major water courses, in valley floors, and along precipitous cliffs. Granular unconsolidated glacial material (rubble, moraines, outwash, valley fill, and other forms of glacial debris) is often a reservoir for large quantities of ground water. An area of mixed alluvium and glacial material is seen at A in Figure 89 (page 92). In this example, the ground water in the alluvium is being replenished by snowmelt from the adjacent mountains, providing long-term recharge to the excellent aquifer.

Alluvial material occurs in other forms, including abandoned stream courses, stream terraces, stream-cut benches, alluvial fans, and river and lake beaches. All these landforms lend themselves to interpretation using EREP

data. For example, fresh water could be expected from a shallow well in the coastal dunes shown in Figure 102 (page 109). The fresh water, being less dense than salty sea water, will form a pod nearer the surface.



SL2-04-44

Figure 91 consists of multispectral camera photos of volcanic terrain in Mexico, west of Laredo, Texas. The Rio Grande River is at the top of the photos. A formational contact occurs between the basaltic lava



SL2-04-45

flows (A) and underlying sedimentary rocks (B). The most favorable place to search for water in this arid region is along the formational contact.

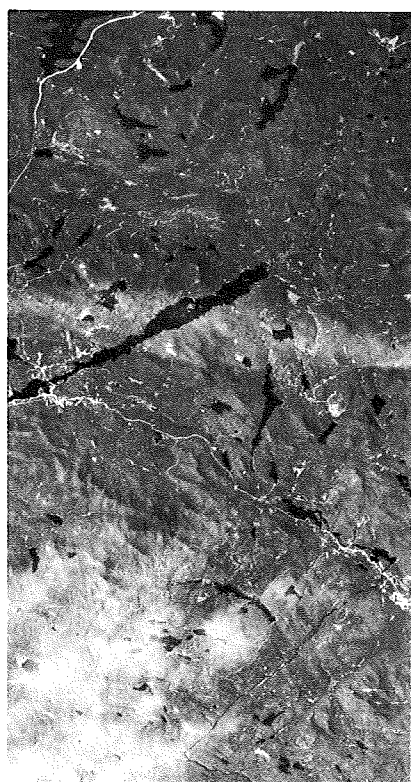
Geologic Structure

Geologic structure has a profound influence on the occurrence of ground water in an aquifer. Depending on the type of geologic structure, available ground water will be trapped in a geologic environment conducive to drilling and production, confined in ways that encourage artesian flows and springs, or allowed to pass freely through to some other place.

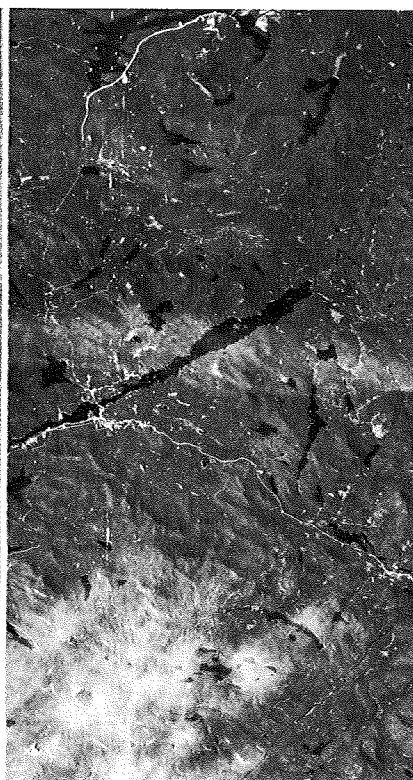
Fractures (faults and joints) tend to trap and collect water, sometimes acting as conduits or reservoirs for its accumulation. By locating these features in EREP photographs, much prospecting time can be saved in exploring for large-volume water sources. Because the fractures trap water, increased vigor in plant

growth enhances them. Figure 92 shows a prominent linear lake and stream development related to fracture patterns in the crystalline rocks of the Adirondack Mountains in New York State.

Folded rock strata are also important to the existence of confined aquifers. Figure 89 (page 92) illustrates sedimentary rock formations cropping out in a tilted attitude. Figure 93 is a typical cross-section of a ground-water recharge area. Watercourses that pass over the upturned edges of the stratified layers recharge the aquifer. This process is also aided by precipitation falling on the exposed outcrops. The water is confined to the porous and permeable layers, which are sealed above and below by impervious beds. It is thus carried to the basin, where it is available for beneficial production.



SL3-85-349



SL3-85-350

Figure 92 is an area of crystalline rocks in the Adirondack Mountains of New York as seen in earth terrain camera photographs. Note how the orientation of lakes and streams is often controlled by the

prominent system of fractures. Water enters these fractures and is available for production from wells in other places.

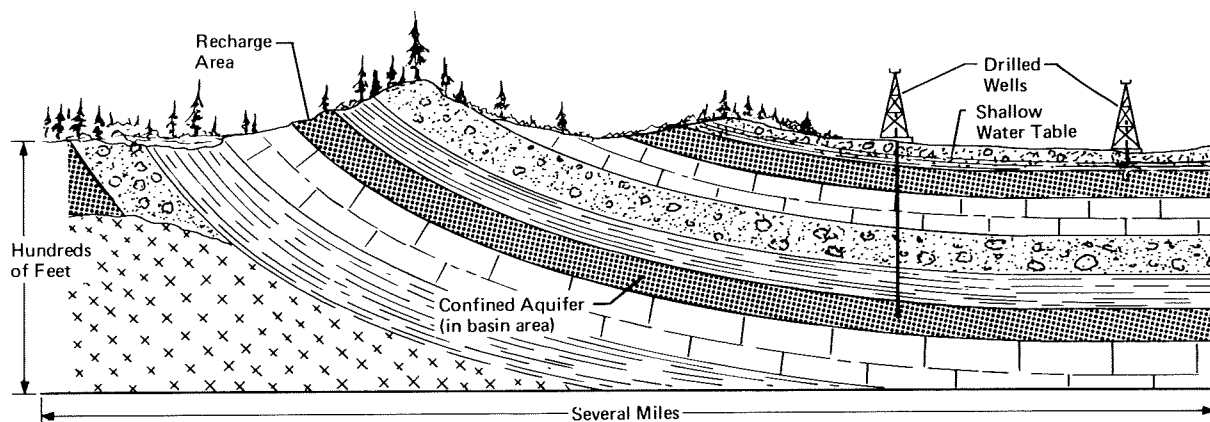


Figure 93 Confined Aquifer

SUMMARY

Specific water resource problems will always require detailed investigation involving field measurements, often coupled with interpretation of aerial photographs. However, EREP data can be an immense help in working out regional relationships and bringing problems into proper perspective. The broad, regional views provided by the EREP cameras contain a wealth of information, although much of it is not apparent without considerable detailed study. The water quality of large lakes or reservoirs can be evaluated to some degree by relating turbidity to reflectance. Enhancement is sometimes effective in the study of sediment plumes in large bodies of water. EREP photographs are effective inventory

tools for water in surface storage and provide useful baselines for future comparisons. EREP photos are also extremely useful for studying hydrologic features related to runoff predictions, flood-plain status, and ground-water availability.

Wetlands can be effectively studied using EREP photographs, and digital manipulation of the multispectral scanner data is expected to provide a measure of automatic wetland vegetation discrimination. Careful analysis of EREP photographs can be of great assistance in regional assessment of ground-water potential. Major fractures and joints tend to show very clearly in the satellite images. Rock types can usually be discriminated by stereoscopic examination, and general assessments of aquifer productivity can be made from a limited amount of ground information.

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V. MARINE RESOURCES

Measurable parameters that are useful for studying ocean processes include salinity, temperature, suspended matter, water color, water depth, and wind and current patterns. Many of these processes are better observed from an orbital platform. Photography, electronic scanning, and other remote sensing from orbit can yield information equivalent to that obtained by thousands of widely distributed surface sensors. A program of *in-situ* measurements on a large scale would be difficult and time-consuming—the latter factor leading to poor data because of the dynamic nature of ocean processes.

A significant ocean process to study is the mixing of large water masses. The position of warm water currents like the Loop Current in the Gulf of Mexico can be important to the fishing industry as well as to weather forecasters. In the same way, an understanding of the transport and dispersal of pollutants hinges on accurate monitoring of ocean currents.

Remote-sensing techniques take advantage of the physical properties of the parameter of interest. For example, multispectral photographs that display only the blue and green, shorter wavelengths, of reflected sunlight provide better visibility through shallow water than those that display ordinary white light, which contains all colors of the visible spectrum. Dielectric properties of sea water change in response to differences in salinity.

Scattering characteristics of the ocean surface change with sea state. Experiments with the Earth Resources Experiment Package (EREP) microwave sensors may lead to an operational system to measure ocean salinity and sea state.

The resolution and spectral characteristics of the EREP instruments, taken in total, serve very well for studies of marine processes. Because of the nature of oceans, high spatial resolution is not usually required (nor desired) in observations of important phenomena. The 100- to 200-foot (30- to 60-meter) resolution of the imaging sensors is quite satisfactory. For spectral analysis of ocean surface radiation, most investigators express a need for data in the middle infrared regions of the spectrum—from about 2 micrometers in the near-visible wavelengths of reflected energy up to about 8 micrometers, where emitted thermal energy dominates reflected energy. Two EREP sensors were designed to operate in these wavelengths—the multispectral scanner and the infrared spectrometer.

Ideally, a marine resources satellite sensor platform would provide repetitive coverage on an hourly or daily basis. EREP, as a precursor of operational systems, did not provide such coverage, but it produced practical experimental data to improve oceanographers' understanding of ocean physics. Better weather forecasts, charts of currents and ice conditions will result.

DYNAMIC OCEAN PROCESSES

The state of the sea, or its degree of roughness, has long been of crucial importance to the shipping industry and useful in weather forecasting. Multibillion-dollar hazards are faced by shippers each year because of lack of adequate sea-state forecasts. For the most part, any quantitative description of sea state has depended on inferences of the effects of winds. Early remote-sensing techniques generally depended on changes in the reflective properties of the ocean surface caused by varying wind and sea conditions. These properties are recorded as varying kinds of sun "glint", or brightness, as seen on photographs and scanner images. Skylab tested a combination of radar scatterometer, microwave radiometers, and an altimeter to give the first ocean-wide measurements of sea state as well as small-scale ocean roughness (which is presumed to be coupled to instantaneous wind velocity). The possibility of ocean-temperature measurements from orbital altitudes is also being tested with this combination of instruments.

A perplexing problem involves a phenomenon known as internal waves. These occur as unexpected, sometimes violent, underwater surges or strong turbulence that may have consequences ranging from beneficial to disastrous. Some theories hold that organic matter in shallow bottoms may be agitated by these waves, thus increasing the supply of nutrients for fish. Other theories point to adverse effects on underwater communication and outright hazards to submarine safety.

The Atlantic Oceanographic and Meteorological Laboratories in Miami have been studying internal waves by analyzing their surface expression as recorded by the Earth Resources Technology Satellite (ERTS). Mechanisms of internal wave generation and the dissipation of wave energy on shores may now be studied statistically with the help of the synoptic satellite view of many consecutive waves in a single scene. Skylab has recorded an unusual display of wave activity in the Gulf of California (Figure 94).

It has been shown by surface measurements that the spectral character of the peak irradiance from the Loop Current spans a narrower band of blue light than the adjacent gulf water.* The latter, while still blue, is not as pure a blue as the waters of the current. Experiments with digital processing of Skylab multispectral scanner data are now under way to determine whether information from the EREP instrument is adequate to discriminate current boundaries.

Differences in sea state, as well as the actual mean height of the sea surface due to density differences, reflect the position of the Gulf Stream. Experimenters are now analyzing the EREP microwave radiometer, scatterometer, and altimeter data to see if major ocean currents lend themselves to detection and mapping by these sensors.

An interesting marine and atmospheric phenomenon was photographed in the Caribbean Sea east of Chinchorro Bank by the multispectral camera and is shown in Figure 95. The subcircular areas of sea surface are of anomalous tone and texture, if not of color. The conspicuous cloud patterns associated with them appear to be caused by some physical property of the water, apparently temperature, although direct corroborative evidence is lacking. Oceanographers disagree on the origin and significance of the circular areas pictured, but it seems clear from stereoscopic examination that the larger cumulus clouds on the western side of the anomalous areas are, in fact, highly visible beacons to their location.

Ice is strikingly evident in photographs from orbital altitudes. Figure 96 shows sea ice surrounding Prince Edward Island in the Gulf of St. Lawrence. Ice details visible in views like this one from the earth terrain camera can help establish patterns of ice formation and drift.

* George A. Maul and Howard R. Gordon, "Relationships Between ERTS Radiance and Gradients Across Oceanic Fronts," *Proceedings of the Third ERTS Symposium*, (Greenbelt, Maryland: National Aeronautics and Space Administration, Goddard Space Flight Center, 1974).



SL2-04-139



SL2-04-140

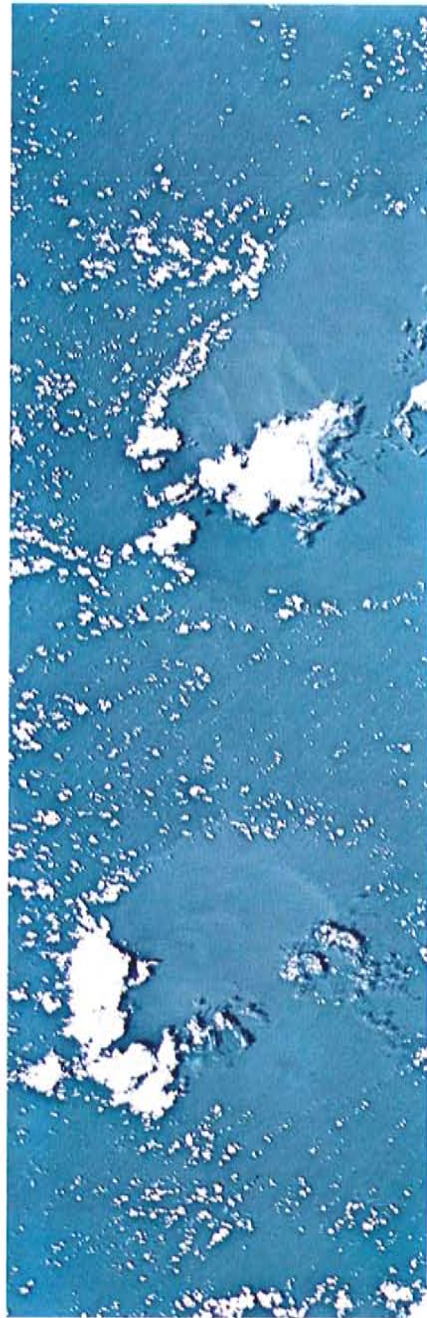
Figure 94 is a multispectral camera stereogram that shows a unique wave pattern in the upper Gulf of California enhanced by sun glint. The pattern may be either shore-induced diffraction of the surface water

or a surface expression of internal wave activity.*

* Unless otherwise noted, figures show only part of an EREP photograph—multispectral camera photos enlarged 4X and earth terrain camera photos 2X.



SL2-10-070



SL2-10-071

Figure 95 shows how large billowing cumulus clouds are preferentially located near the western (left) side of the subcircular patches of ocean water, which

appear to be of anomalous tone and texture in this view. This area near Chinchorro Bank in the western Caribbean is an important fishing ground.



(1.42X)

SL4-93-042

Figure 96 is an earth terrain camera photo that reveals large expanses of sea ice surrounding Prince

Edward Island in the Gulf of St. Lawrence. It covers an area 60 nautical miles (111 kilometers) square.

ORIGINAL PAGES
OF POOR QUALITY

COASTAL PROCESSES

Sedimentation patterns resulting from processes of erosion, transport, and deposition are often more easily discerned from satellite imagery than from more conventional studies. Water color may relate to bathymetry. Figure 97, for example, shows the development of channels, areas of shallow water, and locations of sediment transport in the Chesapeake Bay region.

Processes like channel and bar development lend themselves to study using narrowband black-and-white multispectral photographs as well as color photos. Station 6 of the multispectral camera spans wavelengths from 0.5 to 0.6 micrometer, which is the general area of the green component of sunlight. These wavelengths are not absorbed by water as much as the longer red and photographic-infrared wavelengths. Therefore, station 6 images provide some visibility of near-shore circulation patterns and shallow bottom topography. Imagery from the shorter (0.4 to 0.55 micrometer) wavelength bands of the multispectral scanner would likewise provide greater water penetration. Maximum clear water penetration is achieved in the wavelength of blue light, centering around 0.42 micrometer, depending primarily on the amount of chlorophyll present.

An instructive comparison of the information content of the individual narrowband images can be seen in Figures 99 and 100 of the Chesapeake Bay-Delmarva Peninsula region. It is apparent on both the EREP and ERTS images that the shorter wavelengths provide greater visibility to sediment patterns and bottom topography.

A system has been used to color-slice ERTS images of Delaware Bay to produce an enhanced display of suspended sediment patterns in the bay from which gross circulation patterns could easily be inferred.* The investi-

gators reported that the red band gave the best contrast for observing suspended sediment patterns and water masses over large areas.

The Tampa Port Authority has been involved in a cooperative program with investigators of the U. S. Geological Survey to use satellite imagery to obtain information that would be useful for predicting the ecological impact of a major channel-deepening program. Skylab color photographs provide an excellent appraisal of the present status of harbor, bay, and estuary areas before any channel or waterway disruption occurs.

Specific coastal features that lend themselves to observation in the multispectral photographs include coastal deltas, offshore and longshore bars, subaqueous erosional and depositional features, and in some cases, coastal dune migration.



SL2-16-174

Figure 97 shows major channel development on the east side of Chesapeake Bay at A in this multispectral camera photo. Shallow banks are visible at B. Photos like this can be used to update charts and detect changes in established erosional and depositional characteristics. Compare the detail at A and B with the corresponding hydrographic chart in Figure 98.

* V. Klemas, J. F. Borchardt, and W. N. Treasure, "Suspended Sediment Observations from ERTS-1," *Remote Sensing of Environment*, Vol. 2, No. 4, 1973 (New York: American Elsevier Publishing Company, Inc.) p. 205.

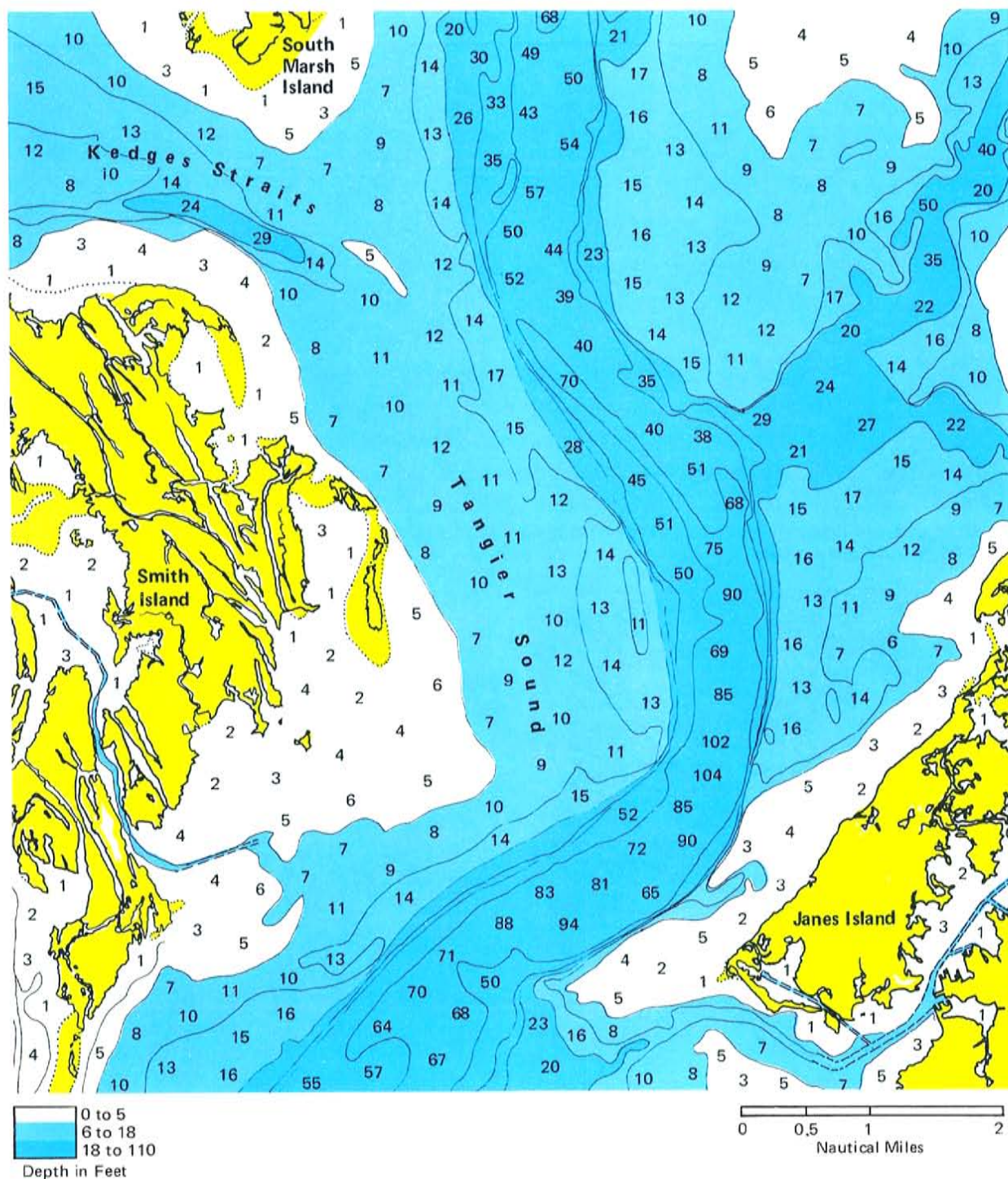
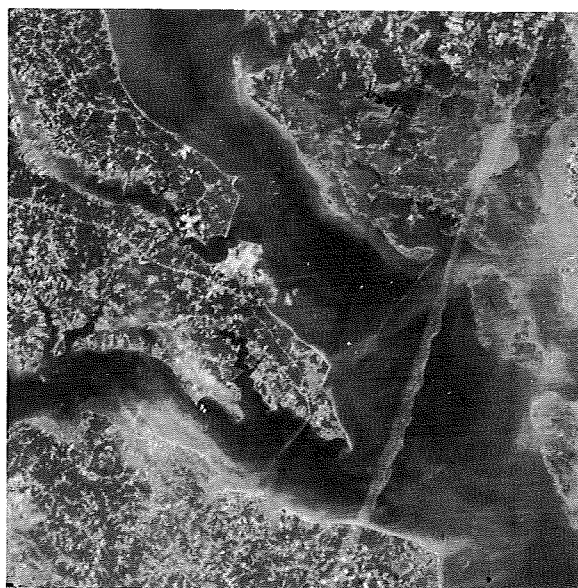


Figure 98 shows depth contours, compiled from hydrographic charts of the area outlined in Figure

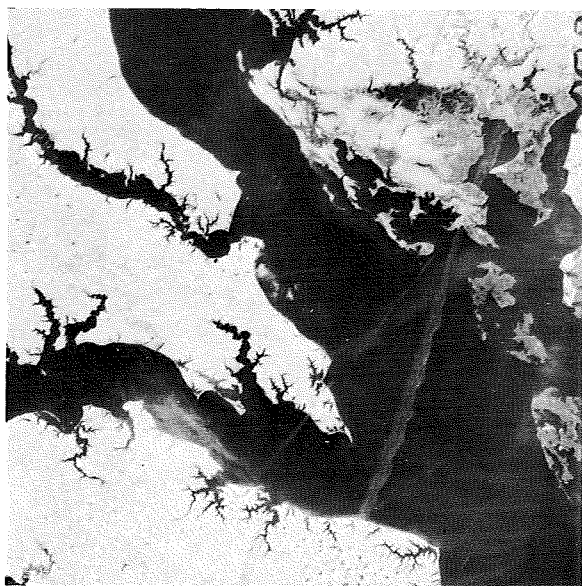
97. Compare the details on the chart with those at A and B in the photo.



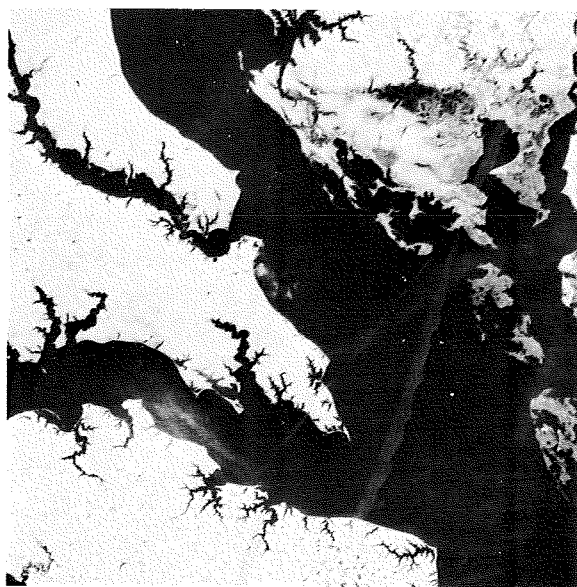
a. Band 4, green light
0.53 to 0.61 micrometer 1062-15140-4



b. Band 5, red light
0.59 to 0.67 micrometer 1062-15140-5



c. Band 6, near-infrared light
0.64 to 0.76 micrometer 1062-15140-6



d. Band 7, near-infrared light
0.75 to 1.08 micrometers 1062-15140-7

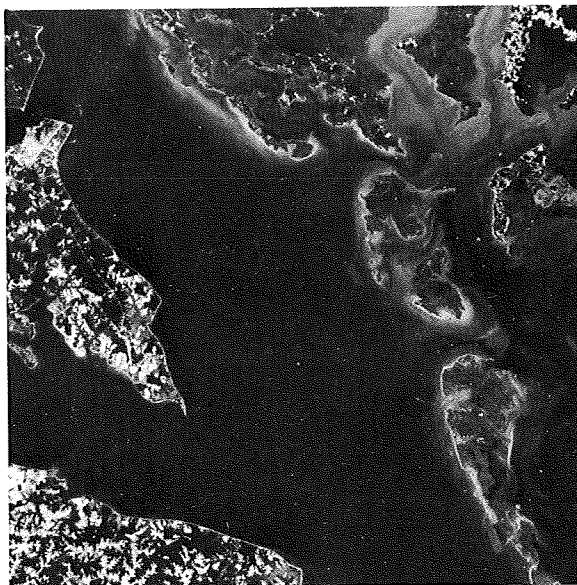
Figure 99 consists of ERTS multispectral scanner images of the Chesapeake Bay area made from narrow bands of light. Compare these with the EREP

narrowband photographs of the same scene in Figure 100.



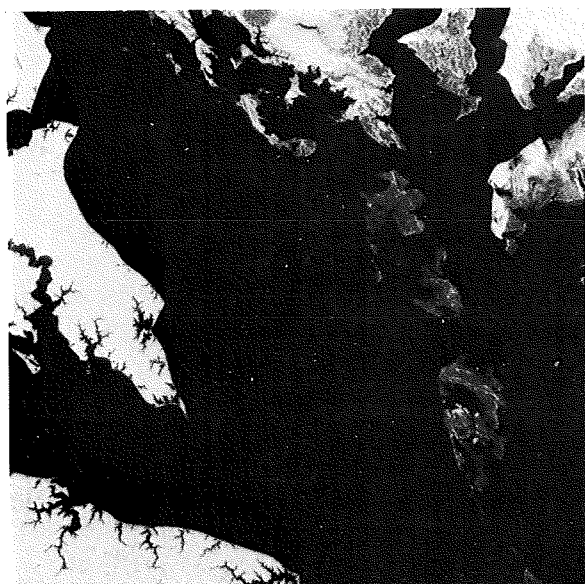
a. Station 6, green light
0.5 to 0.6 micrometer

SL2-18-166



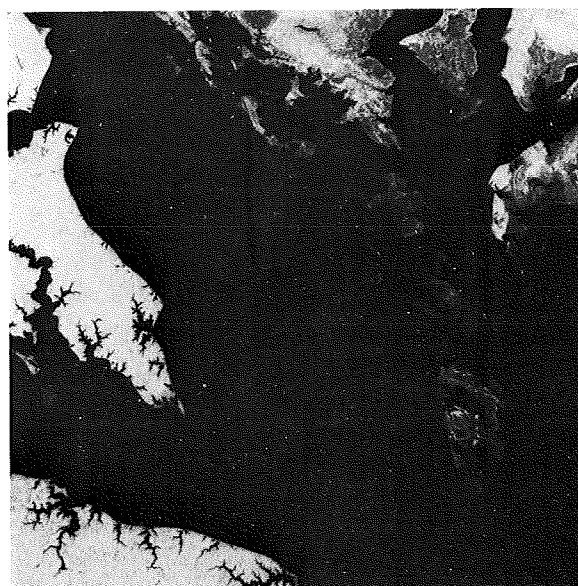
b. Station 5, red light
0.6 to 0.7 micrometer

SL2-17-166



c. Station 1, near-infrared light
0.7 to 0.8 micrometer

SL2-13-166



d. Station 2, near-infrared light
0.8 to 0.9 micrometer

SL2-14-166

Figure 100 consists of EREP black-and-white multi-spectral camera photographs of the Chesapeake Bay area taken with filters that record only the narrow-

band light. Except for station 2, these EREP photos record the same wavelength light as the corresponding ERTS pictures.

Coastal and estuary circulation patterns can be observed in the same way, as shown in Figure 101. Figure 101a was studied separately in considerable detail.* The report states that "Virtually all of the coastal landforms are beach ridges and are easily identified by their linear patterns on the photograph. Several sequences of beach ridges can be identified and sequential development could easily be determined. The combined color and black-and-white satellite photos certainly depict the Palizada River plume extending into the lagoon as well as the distribution of suspended material within the lagoon. . . . sediment transport along the bed must be quite abundant at the eastern entrance to form the broad coastal delta extending into the la-

* *Earth Resource Surveys from Spacecraft*, prepared by U. S. Army Corps of Engineers for Earth Resources Survey Program, Space Applications Programs Office, National Aeronautics and Space Administration, Vol. II, no date, p. 6 ff (N. P. Psuty and J. S. Bailey).



a. S65-45765

Figure 101 shows two photos of Laguna de Terminos, taken nearly eight years apart that demonstrate the utility of Skylab data in documenting the long-term significance of what are ordinarily considered transient processes. Figure 101a is a Gemini photo taken in 1965. Sediment is obviously being discharged at the left-hand or western end of the Laguna, and a

goon." The report also points out that "a sandbar development, which is clearly visible to the right of the Laguna. These bars, within a three-fathom depth interval, again indicate current direction by their distinct pattern. Also, the Gulf water clarity is quite evident here."

If examination of these pictures only results in a logical deduction of such simple facts that sediment always goes one place and never goes another, that information can be of great value in planning human activities.

The fact that the same sediment transport mechanism is continuing today as it was eight years earlier strongly suggests that this circulation pattern would be of crucial interest to planners of any construction activity along this part of the coast or in the Laguna, including projects involving harbor and shoreline maintenance.



b. (2.6X) SL2-04-307

delta can be seen on the inside of the eastern opening, where clear ocean water enters. Figure 101b, taken with the EREP multispectral camera in 1973, clearly shows that the sediment transport mechanism is unchanged and that the eastern delta is expanding. Note that the wind direction, as deduced from cloud patterns, is identical in the two photos.

Ecological studies can also benefit from analysis of these satellite pictures and the dynamic natural processes they display so well. For example, what would be the consequences to fishing if either of the Laguna channels were impeded? Lagoons are nursery grounds for all kinds of animal life. If sedimentation patterns were radically altered, parts of the Laguna could stagnate.

River discharge of sediment-laden water into bays has been recorded in many places by Skylab sensors. Figure 102 shows in graphic detail the dumping of sediment into Lagoa dos

Patos in southern Brazil. The lagoonal cusped spits are formed by shore drifting processes that deposit the very heavy sediment of the lagoon in patterns determined by currents. Figure 103 shows how density slicing and color enhancement can dramatize the appearance of the transported sediment in this scene. This image was created by a video image processor in which a television camera presents a picture of the input image to the signal processor module, which divides the signal into a series of gray levels, or "density slices." Each density slice can then be displayed in a discrete color on the playback



(3X)

SL3-28-331

Figure 102 is a multispectral camera photo that presents in dramatic detail the circulation patterns and depositional features of one of the world's major coastal lagoons, Lagoa dos Patos in southern Brazil. A hundred miles of sand dunes can be seen as the hound's-tooth white line forming the coast, while

specific areas of beach erosion and deposition can be identified on the cusped spits in the lagoon. Heavy sediment is seen entering the lagoon from the Rio Jacui. The suspended sediment is enhanced by video processing in Figure 103.

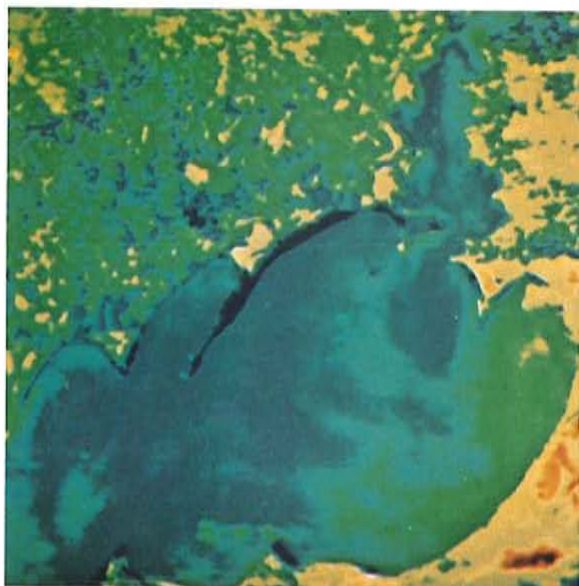


Figure 103 is a video enhancement of Figure 102 and illustrates how sediment dispersal characteristics can be used to study circulation patterns of large bodies of water. Video processing takes advantage of the sensitivity of a television camera and its associated electronics to discern subtle differences in film density and display them in assigned artificial colors.

monitor. Subtle gray-level differences too slight for the eye to discern can be sliced, enhanced, and displayed to exhibit the particular film density patterns of interest to the viewer.

Ocean waste disposal appears to be an activity that can sometimes be monitored more efficiently using satellite data than by other methods. If the disposal is of any significant magnitude, it usually can be seen, and to some extent identified, using EREP data. The latter task, i.e., identification, can perhaps best be accomplished using digital data from the multispectral scanner. Computer manipulation of the digital magnetic tape data can quickly isolate the spectral bands of maximum and minimum signal (either reflectance or emittance), and various weighting and ratioing routines can then be used by the computer program to identify or classify pollutants.

A very practical application of satellite data involves updating shallow-water marine charts by computer processing at a cost of about \$1.50 per square mile. The Environmental

Research Institute of Michigan reported that water depths up to 4.5 meters can be automatically calculated and plotted using ERTS imagery of clear ocean areas.*

LIVING MARINE RESOURCES

Remote sensing from orbital altitudes appears to be useful in the detection and location of major areas of ocean upwelling, which bring up nutrient-rich water for plankton and other organisms in the marine food chain. This detection is possible because of the character of such waters, which causes changes in temperature and color. Water color is easily observed in EREP color photographs and can be electronically enhanced in the black-and-white photographs.

Schools of menhaden, a small fish used for producing high-protein fish meal, are often observed from aircraft because of associated rough and turbid water. Whether the fish are attracted by the turbid conditions—possibly relating to salinity or other differences—or whether the schools of fish themselves create the observed turbidity has yet to be conclusively proved. Investigators are now attempting to define these questions as well as other approaches to satellite remote sensing of fish resources. The National Marine Fisheries Service has reported on density slicing techniques in analyzing ERTS images.† It was found that some schools of fish have the greatest light reflectance in a narrow spectral range within band 5—the red part of visible light from 0.6 to 0.7 micrometer. Computer processing of the digital data produced by the EREP multispectral scanner will now be used to attempt to refine these techniques. In this way, Skylab will again serve to establish a baseline of technical capability.

* Fabian C. Polcyn and David R. Lyzenga, "Updating Coastal and Navigational Charts Using ERTS-1 Data" *Third ERTS Symposium Abstracts* (Greenbelt, Maryland: National Aeronautics and Space Administration, Goddard Space Flight Center, 1973).

† W. H. Stevenson and E. J. Pastula, Jr., *Investigation Using Data from ERTS-1 to Develop and Implement Utilization of Living Marine Resources* (Bay St. Louis, Mississippi: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, December 1973).

SUMMARY

Except for aerial photography, remote sensing is a relatively recent innovation in the study of the earth's resources. It is even newer to the specific studies of ocean phenomena and processes. Therefore, data from the Skylab EREP sensors are of immense importance to the establishment of a baseline of observable

parameters. Oceanographers will be able to relate their problems and measurement techniques to the wealth of new information made available by Skylab's excellent sensors. To be able to say with considerable confidence that this aspect of the ocean or that area-wide ocean process is observable, and in some cases measurable, from a satellite will speed the progress of vital research.

VI. LANDFORM SURVEYS, GEOLOGIC MAPPING, AND MINERAL RESOURCES

Satellite remote sensor data are particularly well suited to geologic investigations. The synoptic view afforded by the space imagery enables the geologist to study the relationships of surface features in their proper context and to correlate these features over large areas under conditions of uniform illumination. The geologist studies the earth's surface in remote-sensor imagery to identify the important elements of landform character and distribution, map structural and lithologic features, prospect for mineral deposits, and plan engineering and construction projects.

The scale and resolution of satellite remote-sensor imagery are excellent for landform studies because regions extending into several physiographic provinces can be examined in a single view. Figure 88 (page 91) demonstrates the value of Earth Resources Experiment Package (EREP) photographs for discerning major physiographic provinces in regional context. An image of this type is particularly valuable to the geologist because landforms reveal important clues regarding lithology and structure and are basic prerequisites to geologic mapping. Similarly, the major advantage of EREP imagery is that it provides a fixed data-base map upon which pertinent regional lithologic and structural features can be compiled and analyzed. This regional overview enables the geologist to selectively pinpoint high-priority areas for detailed examination by larger-scale aircraft imagery and field investigations.

Because the Skylab mission was designed to achieve diverse scientific goals, its areal and

temporal coverage is restricted and may limit the usefulness of EREP data to some extent. However, most geologic features are relatively unchanging over long periods so that EREP data are useful for many purposes, even without repeated coverage. Correspondingly, EREP can provide sufficient regional baseline data against which changes in dynamic landforms (surging glaciers, coastal processes, sand dunes, volcanoes) and landforms altered by man (strip mining, urban development, transportation corridors, etc) can be measured at a later date with future satellite coverage.

SUITABILITY OF EREP SENSORS

The two EREP sensors that have the most immediate application to geologic investigations are the multispectral photographic facility (multispectral and earth terrain cameras) and multispectral scanner.

Multispectral Photographic Facility

The multispectral photographic facility (multispectral and earth terrain cameras) provides the most useful data to geologic investigators. Color and color-infrared photographs have universal utility and require little or no special equipment or processing to be useful. Color photographs are excellent for detecting geologic features where atmospheric conditions are clear. Desert areas are ideally suited to color photography because of the generally low atmospheric aerosol content and the excellent exposure of rocks at the surface.

Most desert scenes in EREP color photographs are crisp and colorful, permitting rapid differentiation of multicolored rock types and correlation of key strata. This assists the geologist in rock discrimination and identification of mappable geologic units that are important in mineral exploration and geologic engineering applications. The advantage of color photography is not as great in humid regions, where atmospheric aerosol content is generally higher and vegetation covers most of the surface.

Color-infrared (false-color infrared) and black-and-white infrared photographs are most advantageous in more humid areas because of their excellent haze penetration and sensitivity to near-infrared reflectance from vegetation. Use of a yellow filter (minus blue) prevents recording much of the haze. This characteristic greatly increases the chances of getting higher-contrast (and hence higher-resolution) photos in areas where color film might provide lower contrast.

In vegetated areas, rocks are generally not exposed. However, the lithology and structure of the underlying geology usually affect soil composition, soil moisture, and slope, so that vegetation is often strongly influenced by the geology. Color-infrared photographs permit detection of subtle variations in vegetation and therefore allow considerable geologic information to be inferred. The geologist can interpret these photographs for subtle indications that differentiate soil and rock types and indicate structural fabric.

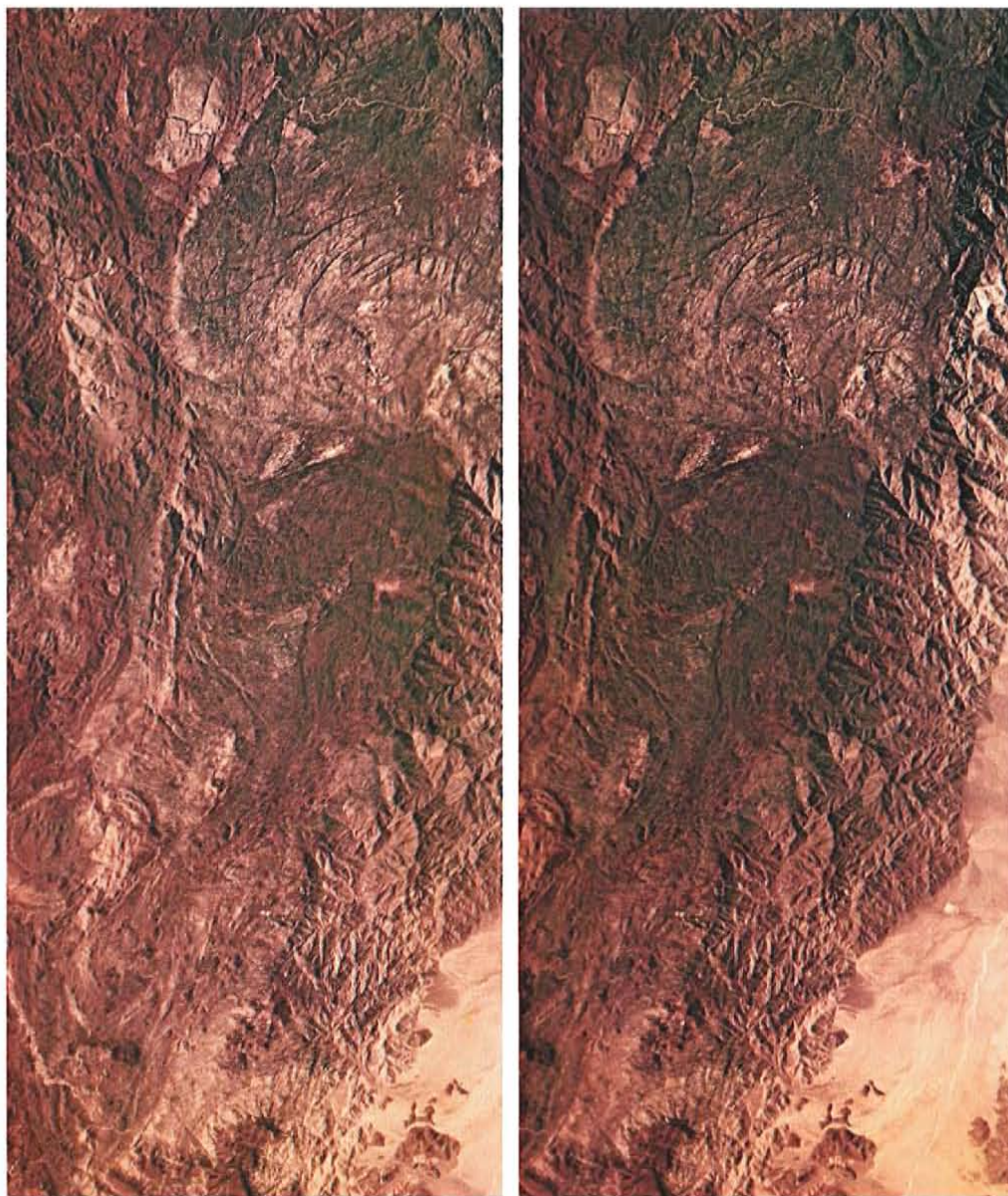
Multispectral photographs have a more specialized application to geologic problems than either color or color-infrared photographs. The best use of multispectral photos is for discriminating targets that have subtle spectral signature differences. Comparison of images of the same scene taken in different spectral bands may reveal different tones of gray. However, for the most part, these differences should be evident in either color or color-infrared photographs. Ideally, specific spectral bands should be selected for a particular geologic task, based on knowledge and comparison of the reflectance spectra of

the targets involved. The multispectral camera bands were selected for general earth resources applications and may therefore lack the spectral resolution necessary for some geologic problems. The major benefit to be derived from multispectral photographs is through application of special processing techniques, such as density slicing of individual bands and color-additive viewing or video image processing of multiple bands.

The resolution available from EREP imagery is the best obtained from space to date in NASA's Earth Resources Program. The resolution of multispectral camera color and panchromatic photographs ranges from about 100 to 150 feet (30 to 46 meters). The earth terrain camera photographs have an average resolution of 55 to 75 feet (17 to 23 meters). The high-resolution photographs from the earth terrain camera will permit fairly detailed lithologic and structural mapping and complement the broader areal coverage of multispectral camera photographs. Drainage patterns can be mapped in fine detail on both the multispectral and earth terrain camera photographs, which is useful in understanding landforms, lithology, and structure.

A major advantage of multispectral and earth terrain camera photography is that many image frames were acquired with 60-percent overlap for stereoscopic viewing. This characteristic is particularly important to the geologist because it improves his ability to recognize and map landforms and permits him to estimate structural attitudes (the geometric relationships of rock strata, faults, joints, etc). Stereo viewing has an added advantage of reducing the effects of haze and other noise on the film because the information from each image of the stereoscopic pair is additive, whereas the noise is subtractive. The result is an enhanced presentation to the observer. Figure 104 demonstrates the value of stereo viewing to the geologic interpretation of EREP photographs.

As shown on page 8, multispectral photographic camera images are available in several formats. Transparencies have the highest quality and resolution potential when magnified



SL3-86-001

SL3-86-002

Figure 104 is an earth terrain camera stereogram of Baha California. It is apparent that stereo viewing greatly improves the geologist's ability to interpret key lithologic and structural detail in this area.*

* Unless otherwise noted, figures show only part of an EREP photograph—multispectral camera photos enlarged 4X and earth terrain camera photos 2X.

on a light table. The 12.83-inch (32.5-centimeter) square print formats have a good scale for annotations made directly on the print or on a registered overlay. Prints do not require the use of a light table, but some degradation of resolution can be expected.

Multispectral Scanner

This instrument provides quantitative reflectance data in twelve wavelengths from 0.41 to 2.43 micrometers and thermal emittance data from 10.2 to 12.5 micrometers. At wavelengths shorter than approximately 0.88 micrometer, the reflectance data are roughly parallel to those from channels of the multispectral photographs—except for higher spectral resolution (i.e. narrower bandwidths) and digital encoding inherent in the scanner electronics. The main advantage of the scanner data over multispectral photographs is that the former can be analyzed digitally by computer processing.

The thermal channel (10.2 to 12.5 micrometers) has several potential applications to geologic problems. The thermal sensitivity of the detector is on the order of 0.5 to 2.0°C. Thermal contrasts of this magnitude are associated with evaporative cooling and soil moisture variations as surface expressions of ground-water hydrology and structure. Probably the greatest potential application is in exploration for geothermal anomalies. Although features like individual hot springs are below the spatial resolution capability of the scanner [about 262 feet (80 meters)], an entire region may be elevated in temperature a few degrees above the surrounding background, indicating a potential thermal anomaly. For detection of regional thermal anomalies, poor spatial resolution could be advantageous because it reduces local noise due to vegetation, slope, etc, and provides integrated data over large areas. Current and recent volcanic activity might also be studied from data provided by this thermal channel.

Infrared Spectrometer and Microwave Radiometer, Scatterometer, and Altimeter

These are important experimental sensors

whose data have little-known applicability to geologic investigations.

Theoretically, the infrared spectrometer could provide infrared signature data unique to each lithologic target. However, the resolution is poor—0.25 nautical mile (0.46 kilometer)—and, for geology, the instrument is considered experimental. Homogeneous rock outcrops large enough to occupy one or more resolution cells are rare, and vegetation, soil, etc would be averaged into the measurement. The altimeter may be useful for some geologic studies (notably geodesy), but the low areal resolution of 6 nautical miles (11 kilometers) also relegates it to the experimental category. Data from the microwave and L-band radiometers have poor resolution—6 nautical miles (11 kilometers) for the microwave radiometer and 60 nautical miles (111 kilometers) for the L-band radiometer.

EXAMPLES OF TECHNIQUES

Landform Surveys

Virtually every cloud-free photograph acquired by the EREP photographic facility over land areas displays landforms of some kind. These landforms are of particular interest to the geologist because they indicate geologic features that are important clues to lithologic character and regional structure. The geomorphologist will find that these data provide new insights into the origin and evolution of landforms, as well as show regional interrelationships between landforms. Likewise, geologic interpretation and analysis of a particular region depend on recognition of the distribution, continuity, and trends of key surface features. These surface trends can be readily delineated in the EREP photographs and classified according to their predominant geomorphic characteristics.

EREP photos provide the capability to enhance and update existing regional landform classifications as well as to generate thematic baseline maps showing the extent, distribution, and character of various geomorphic

units. Examples of landforms and active geologic processes recorded in the photographs are high-quality teaching and training aids that can be used effectively in communicating basic geomorphic concepts to high school and college students. The following paragraphs will illustrate the various landform units and related surface features visible in EREP photographs.

The interface between continents and oceans is an environment of dynamic change and one that is of major importance in the management of coastal resources. The effects of longshore current activity are obvious in many multispectral camera frames, as in Figure 105.

The discharge of sediment from rivers and streams into oceans is closely related to coastal geomorphology and is discussed on page 109. The study of modern sedimentation is important because it enables the geologist to better understand the history of sedimentary rocks. In addition, the engineering geologist is concerned with the effects of sedimentation on harbors, reservoirs, and inland waterways. Color photographs are definitely superior to color-infrared in revealing sediment distribution and concentration in bodies of water. To detect and portray subtle variations in sediment concentrations, density slicing, densitometry, and color coding are recommended—with either color or shorter-wavelength multispectral photographs. Figure 106 provides a good example of deltaic sedimentation.

EREP color-infrared and black-and-white infrared multispectral photos are ideally suited to the study of coastal and alluvial plain regions because water is most easily discriminated from land, and variations in vegetation related to moisture conditions are most apparent. An excellent example of coastal and alluvial plain landforms is shown in Figure 88 on page 91. This photo is unique in that it clearly shows the gently dipping (sedimentary rocks) of the coastal plain overlapping tightly folded sedimentary strata of the Ouachita. The well-defined dendritic drainage pattern associated with the coastal plain and the

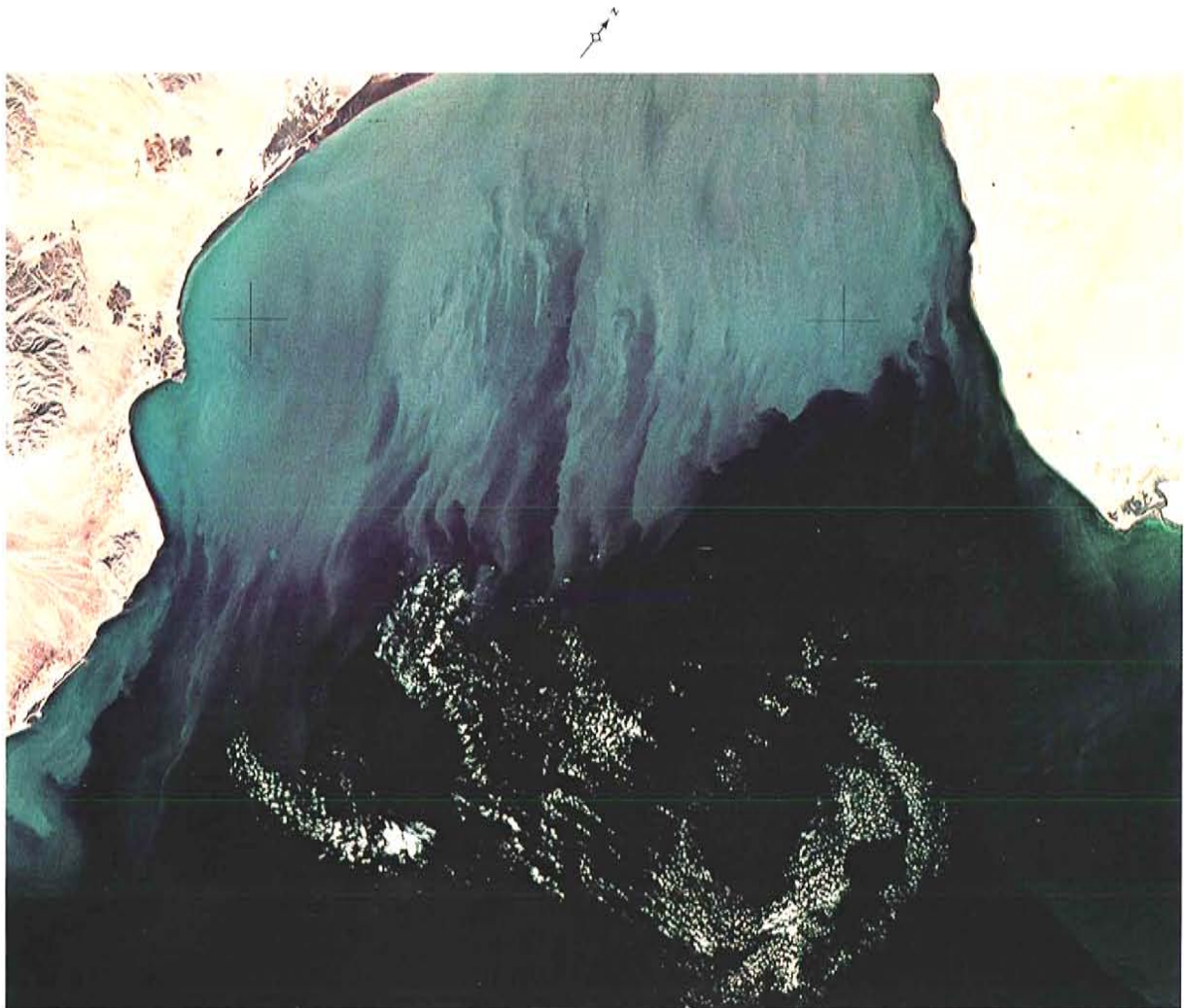
meander-scarred flood-plain surface of the Mississippi alluvial plain complex are also readily observed in this photo.

Figures 107 through 113 show alluvial fans, different types of mountain ranges, glaciation effects, and sand-dune morphologies. They are included primarily to demonstrate the amount of landform detail that can be derived from EREP imagery.



SL3-46-055

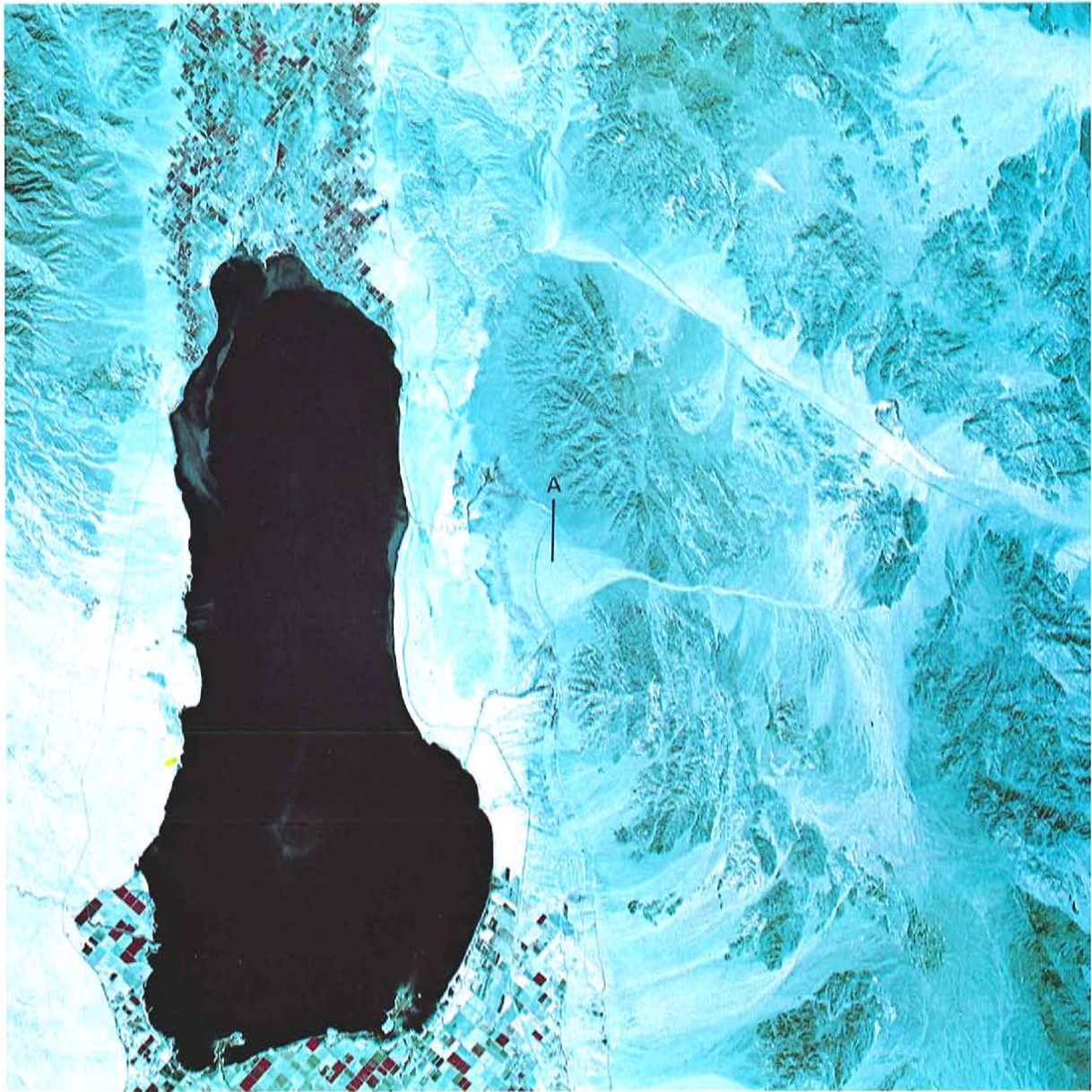
Figure 105 is a multispectral camera photograph that shows an area east of Chesapeake Bay. This part of the coastline displays emergent characteristics, with the existing barrier beach and lagoon resulting from the interaction of longshore current and wave processes.



SL3-46-055

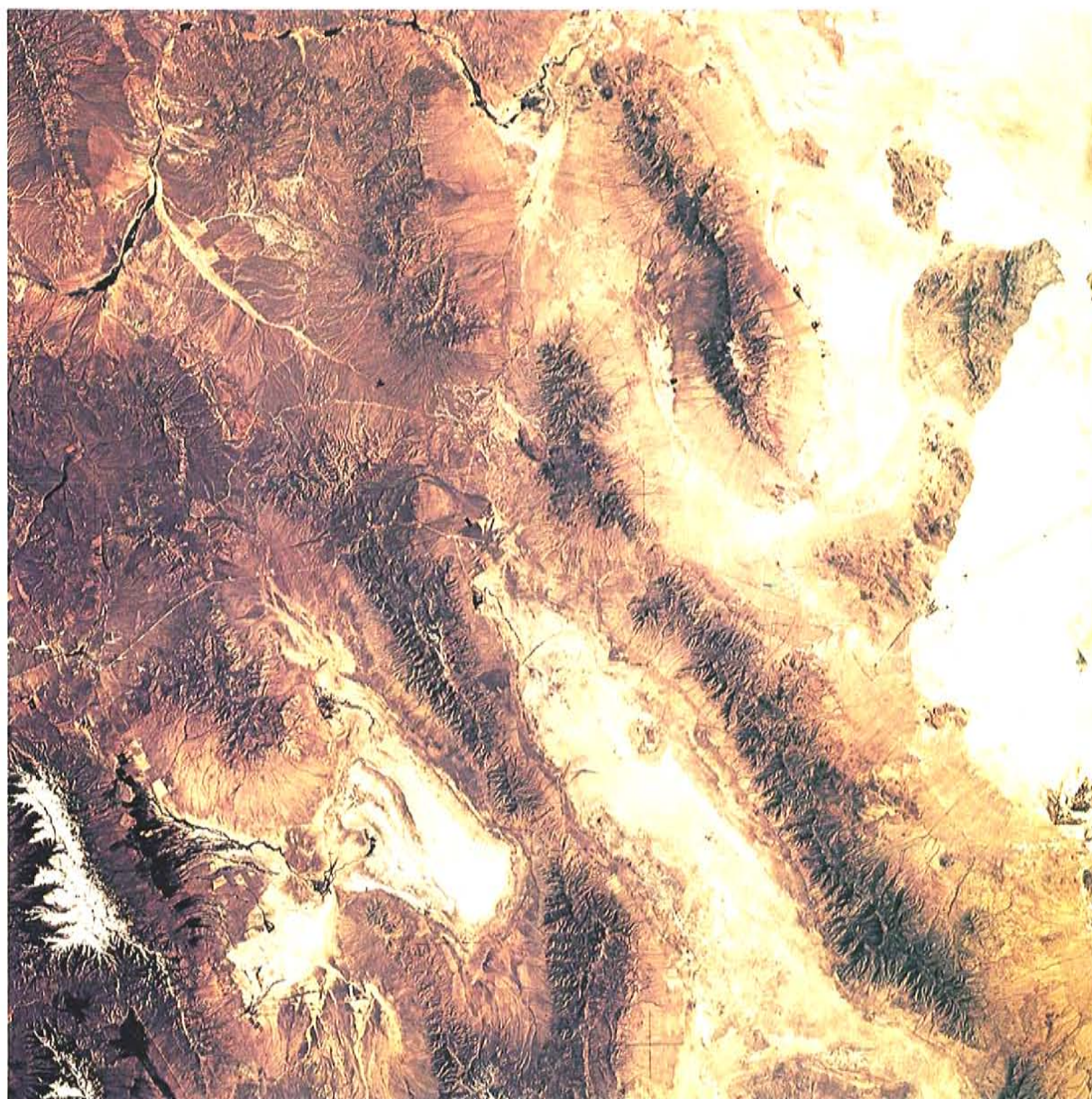
Figure 106 is a multispectral camera image that graphically shows suspended sediment distribution and relative concentration at the northern end of the Gulf of California. An image of this type can serve as

a baseline for monitoring future sediment processes in this area. Density slicing of this photo with a video image processor would enhance tonal variations and allow more detailed study of the sediment plume.



SL3-87-112

Figure 107 is an earth terrain camera color-infrared photo that shows the many alluvial fans in the Salton Sea area. One of the most obvious is at A.



SL2-10-004

Figure 108 is a multispectral camera photo in which typical basin and range topography (horst and graben extensional tectonics) are evident. An image of this type could be of primary importance to the field

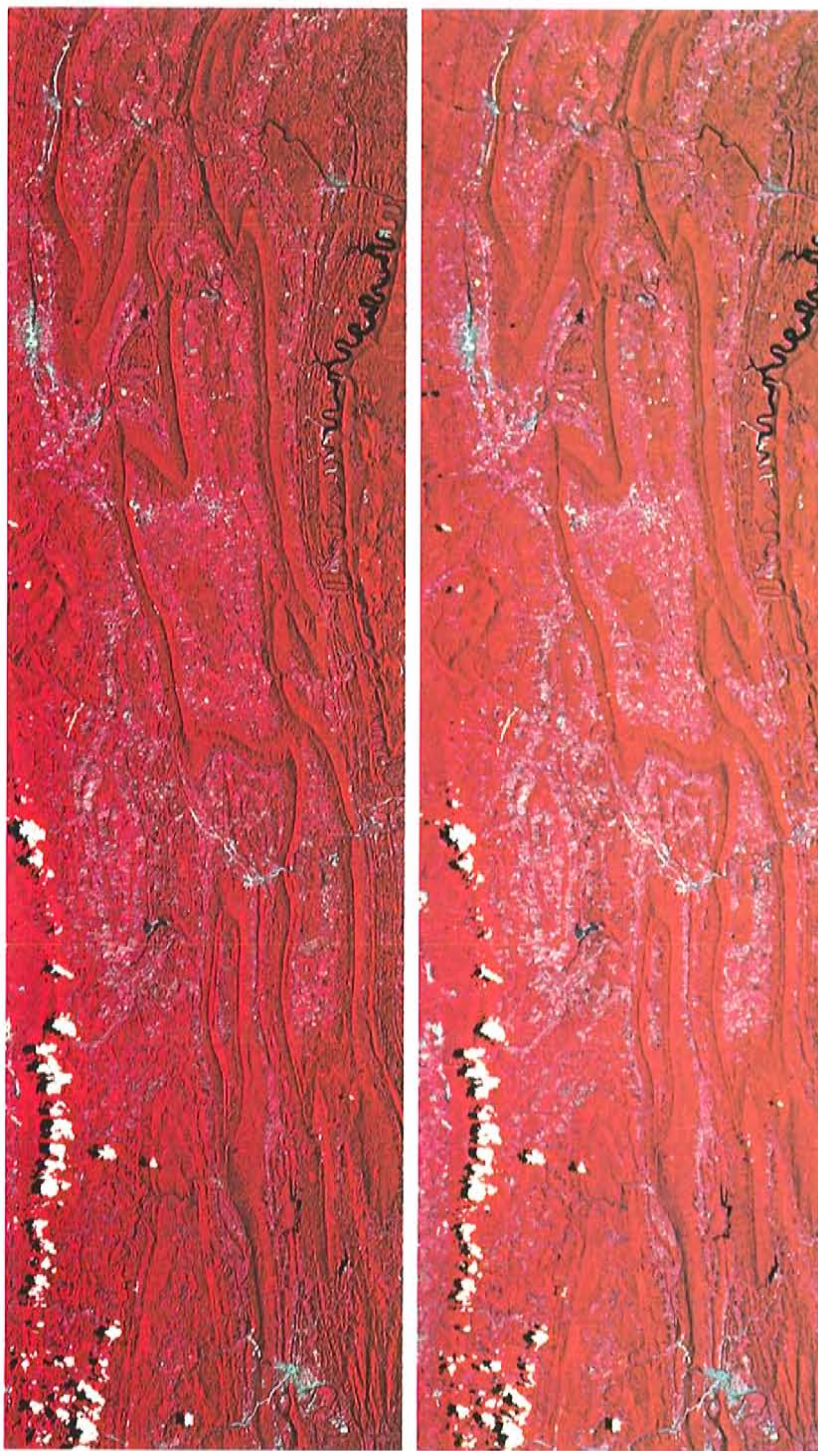
geologist who is concerned with the relationships of regional and local structure. The frame includes parts of Utah and Nevada, with the Bonneville Salt Flats at the right.



SL3-46-338

Figure 109 is a multispectral camera photo of Mt. Etna in Sicily. Note the smoke plume and typical

circular pattern associated with this active volcanic landform.

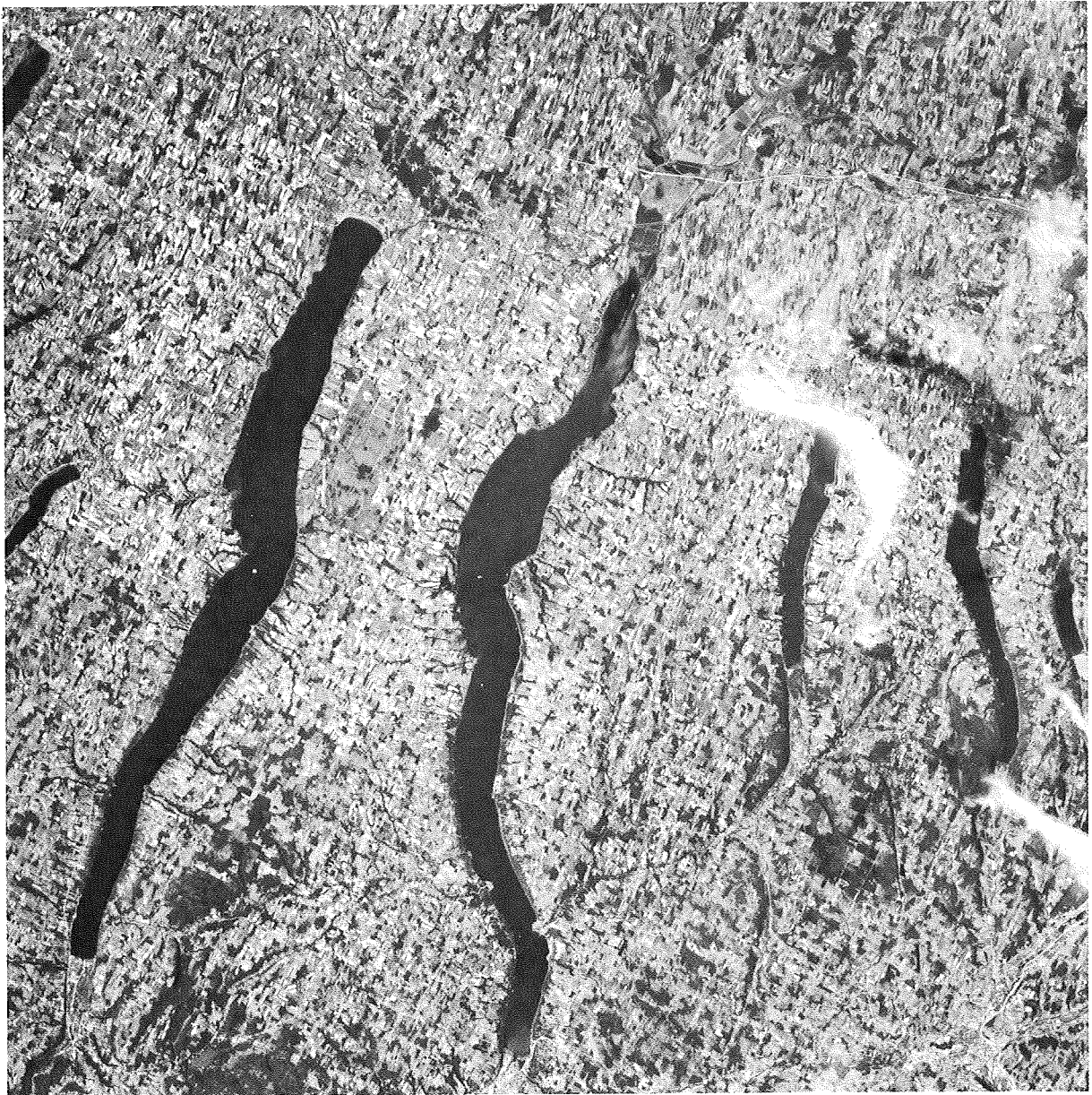


SL3-21-191

SL3-21-192

Figure 110 is a stereogram of multispectral camera color-infrared photographs of part of the Appalachian folded belt near Altoona, Pennsylvania. Note how

stereo viewing enhances the ability to interpret the geology of this area.



SL3-85-345

Figure 111 is an earth terrain camera photo of the Finger Lakes region of central New York. This area is a mature glaciated plateau of moderate relief. An

image of this type is valuable to state and regional planners who are concerned with compiling a baseline of existing land resources.



SL3-34-324

Figure 112 is a multispectral camera photo that shows alpine glaciation (A, B, and C) in the Swiss Alps. The Rhone River is on the left.



SL3-28-364

Figure 113 shows longitudinal dunes in a multispectral camera photo that can be used to study sand-dune morphology. These dune forms indicate a prevailing wind from left to right. Dune morphology

that is characteristic of the transition from crescent (barchan) to longitudinal (seif) dunes is at A. The area shown is in the Sahara Desert about 520 nautical miles south-southeast of Casablanca.

An example of coastline sand-dune development is shown in Figure 102 on page 109, which includes Lagoa dos Patos, Brazil. Dune morphology is controlled by the amount and grain size of sand supplied to the area, wind strength, consistency of wind direction, vegetation, and local geographical features. An interesting application of EREP data to dunes is to increase our knowledge of the environment on Mars. By comparing an image like Figure 114 with EREP images and ground data of similar dune fields on earth, it may be possible to reach conclusions regarding Martian wind velocities, directions, and particulate matter on the surface.



Figure 114 is an image obtained by Mariner 9 that shows a dune field on Mars.

Drainage patterns are easily mapped and studied on multispectral and earth terrain camera photos, especially where stereo coverage is available. The best film to use for drainage analysis depends on the climate and type of landform to be analyzed. Generally, color is best for desert areas (Figure 115) and color infrared for humid areas. The importance of drainage analysis in geologic investigations cannot be overemphasized because

runoff is highly sensitive to lithologic and structural variations in the underlying bedrock as well as to surface obstacles produced by deposition (alluvial, deltaic, and glacial materials).

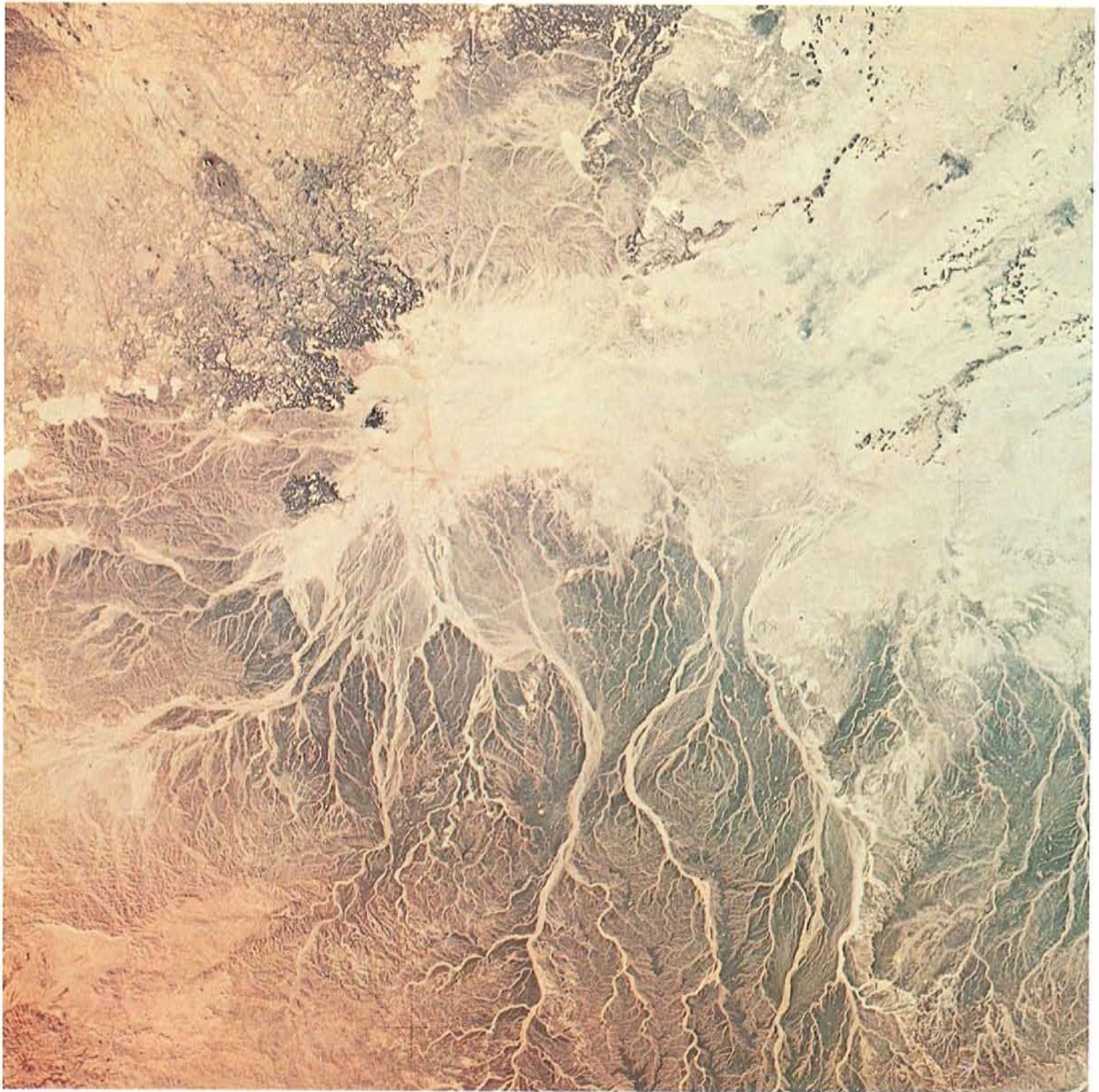
Geologic Mapping

Geologic mapping is a basic prerequisite to solving many problems related to geology. Mineral exploration, engineering geology, environmental geology, and academic studies all require some degree of geologic mapping (delineation of lithologic and structural features) in order to understand the geologic environment related to a particular problem.

There is a general misconception that the geology of the entire United States has been mapped in detail. Although some parts have been, there are vast regions for which only generalized maps have been prepared. Many of these were compiled with little regard to standardization of scale and information content. Often there is poor correlation between adjoining areas. In several countries, the state of geologic mapping varies widely but is generally much less complete and detailed than in this country. EREP data can help to synthesize available geologic data and provide generalized geologic base maps for poorly mapped areas. Furthermore, the unique small-scale perspective of satellite data can provide an overall understanding of a geologic province unobtainable with larger-scale imagery and maps.

Lithologic Discrimination and Identification

There is a distinction between discrimination of rock units and actual identification of the lithologic units involved. Obviously, it is often possible to recognize some differences in characteristics between rock units, yet not have enough information to classify a specific unit as either limestone or basalt, for instance. EREP photographs provide several types of information that allow the trained interpreter to discriminate rock units.



SL3-46-211

Figure 115 is a multispectral camera color photo of Saudi Arabia showing the clarity with which drainage patterns can be delineated in EREP photographs.

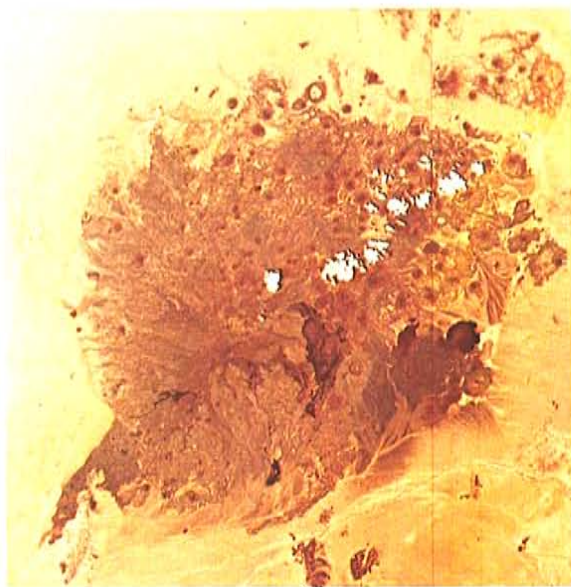
Color variations in photographs are obvious discriminating characteristics. Figure 116 is an example. Color is most useful in arid regions where the bedrock is exposed at the surface. Multiband photographs and multispectral scanner data may also permit discrimination of rock units on the basis of spectral signature (basic color properties) as recorded in gray tones in discrete bandwidths. Application of more sophisticated processing techniques can bring out small differences in spectral characteristics that may aid in lithologic discrimination (See page 37 ff.)

As previously stated, landforms provide important clues for both discrimination and identification of mappable rock units. Hogbacks and stepped topography indicate areas characterized by resistant sedimentary strata or possible stratified volcanics. Circular cones or collapse features suggest volcanic landforms that are often associated with radiating dikes and extensive lava-flow materials, as shown in Figures 109 (page 121) and 117.



SL3-40-207

Figure 116 is a multispectral camera photo of central Wyoming. The areas at A show color discrimination of a red sedimentary rock unit. An image of this type provides the geologist with the ability to delineate and correlate key stratigraphic units over great distances.



SL2-04-136

Figure 117 is a multispectral camera photo of a volcanic mountain with prominent cinder cones near the west coast of Mexico that shows various rock types associated with such volcanic landforms.

Metamorphic and igneous rocks are often recognized by a general lack of layering and a dendritic or linear-rectangular drainage pattern resulting from fracture alignments in the underlying rock. Stereo information available from some EREP photographs is particularly important when interpreting landforms and their relationship to lithologic discrimination and identification.

Geologic Structure

Remote-sensor images from space provide their greatest potential in the interpretation of regional geologic structure. Initial reactions of geoscientists to early spacecraft remote-sensor imagery emphasized the wealth of structural information available from this type of data. Geologists are able to trace the relationships of key structural horizons and lineations in a single view over many thousands of square miles. EREP data share this capability and have the added advantage of higher resolution and the potential for stereo viewing. Figures 118 and 119 show the value of color photographs for interpreting the detailed geologic structure of a region.



SL2-10-011

Figure 118 is a multispectral camera photo of the San Rafael Swell in east-central Utah. The kidney-shaped uplift is marked by concentric rings of cliffs and lowlands. The relative bedding attitude of this

breached asymmetric anticline can be inferred from outcrop widths. Steeply dipping strata at A display a narrow outcrop pattern, whereas the strata at B are gently dipping and show a broader outcrop pattern.

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OF POOR QUALITY



SL2-10-010



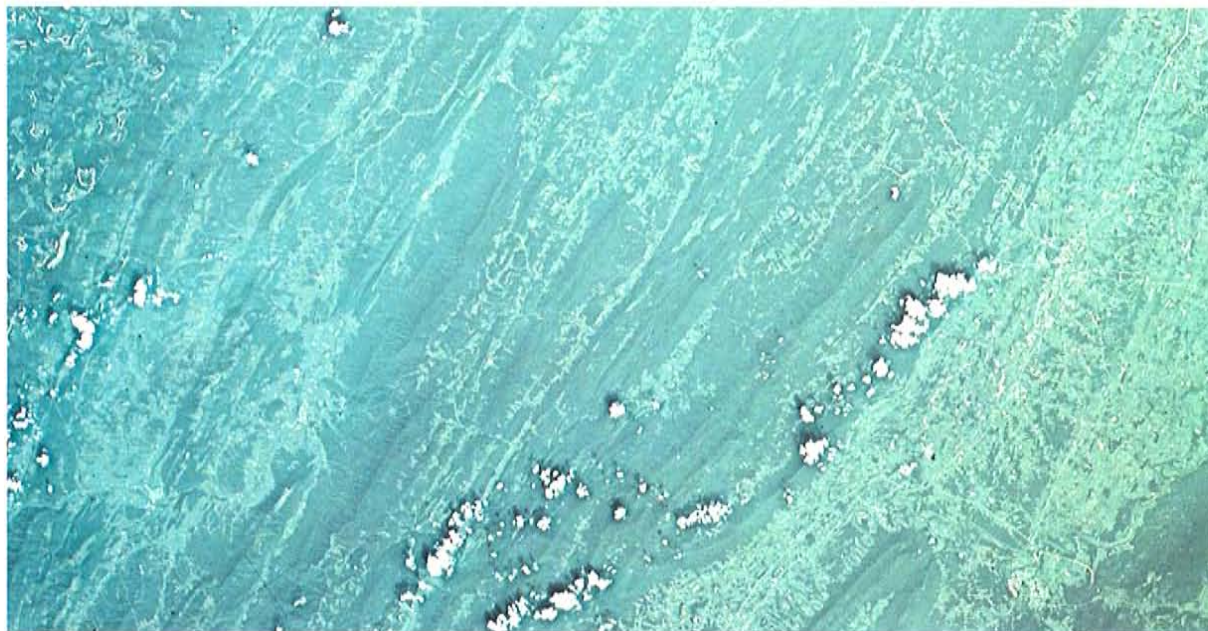
SL2-10-011

Figure 119 is a stereogram of part of the area shown in Figure 118. Key strata can easily be discriminated from adjacent units by their topographic expression as well as their color. An image of this type may be

valuable in prospecting for petroleum and uranium. The latter may reveal its presence by its characteristic bleaching of overlaying strata.

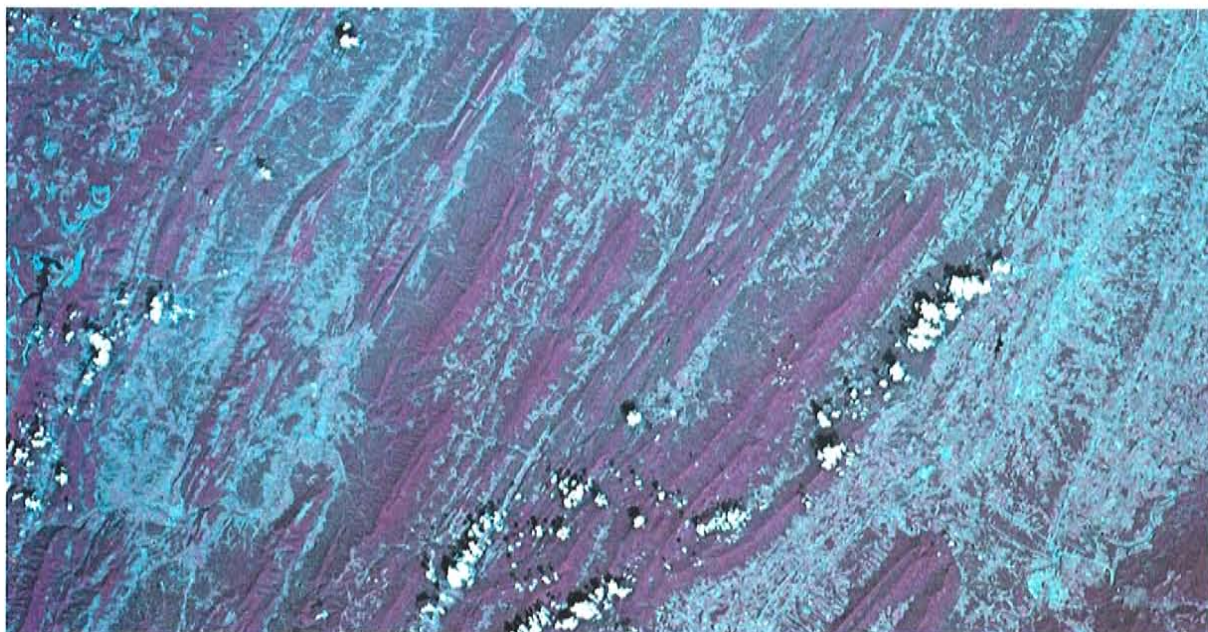
Figures 120a and b are photographs of the Appalachian Mountains that show the characteristic fold patterns in sedimentary strata. Note the greater sensitivity of color-infrared

film for enhancing subtle variations in vegetation. This aids the geologist in interpreting the topographic and structural features of the area.



a.

SL3-46-027



b.

SL3-45-027

Figure 120 shows two simultaneous multispectral camera photographs of the folded Appalachian Mountain belt of West Virginia. In this area, vegetation and

land use are strongly influenced by the underlying geology. Figure 120a is a high-resolution color photo. Compare it with the color-infrared in Figure 120b.

Plate Tectonics

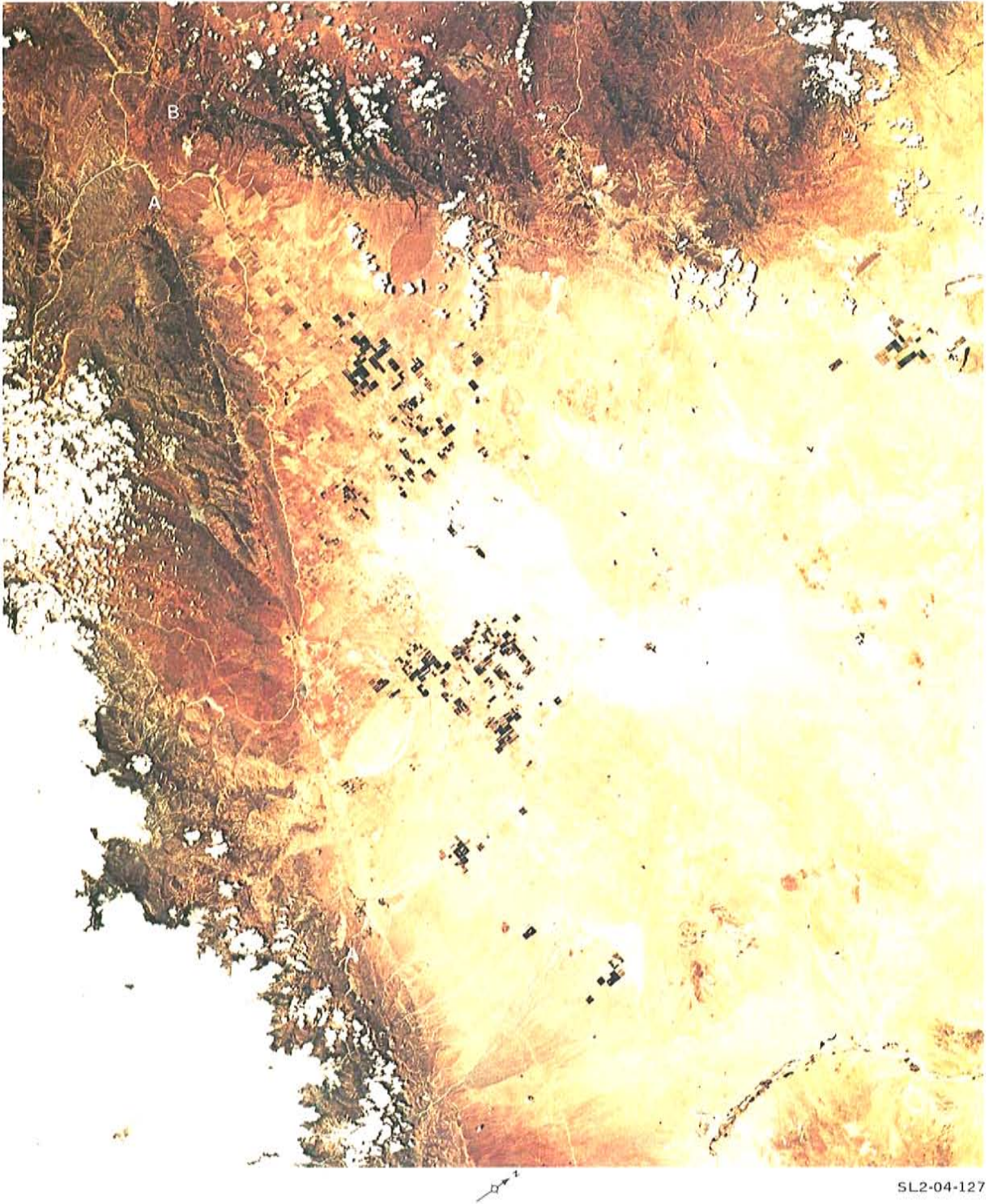
The scale and synoptic coverage of the EREP imaging systems are ideally suited to the study of global phenomena. Evidence in support of continental drift theory is apparent in several photographs. In some cases, this

imagery can bring about a fundamental understanding of the tectonic framework of a region. Figure 121 shows a portion of the Middle East where the northern extension of the East African Rift System is expressed as a large linear graben. Figure 122 shows a segment of the San Andreas fault in California.



SL3-46-209

Figure 121 is a multispectral camera photo of a very large rift (A-A') associated with Middle Eastern plate tectonics. The Sea of Galilee lies in the rift valley.



SL2-04-127

Figure 122 is a multispectral camera photo of California showing the intersection of the San Andreas (A-A') and Garlock (B-B') faults. Scientists theorize that the area west of the San Andreas is part of the Pacific lithospheric plate, while the area to the east is part of the North American lithospheric

plate.* Perhaps an image of this type could assist in clarifying certain theories regarding the regional tectonics of this area.

* W. A. Elders et al, "Crustal Spreading in Southern California," *Science*, October 6, 1972, p 15ff.

Geodesy

Geodesy is concerned with the shape of the earth. Because it has many perturbations, the geoid or shape of the earth does not coincide perfectly with any mathematically defined shape. The variations seem to result from local mass differences in the earth. The ocean surface is affected by variations in the gravity field of the earth so that measurements of differences in sea level indicate the geoid figure. Initial evaluation of some EREP altimeter data indicates a coincidence of ocean surface undulations with deep sea trenches and, possibly, with variations in the density of rock in the ocean floor. EREP altimeter data from the Puerto Rico Trough area are shown in Figure 123.

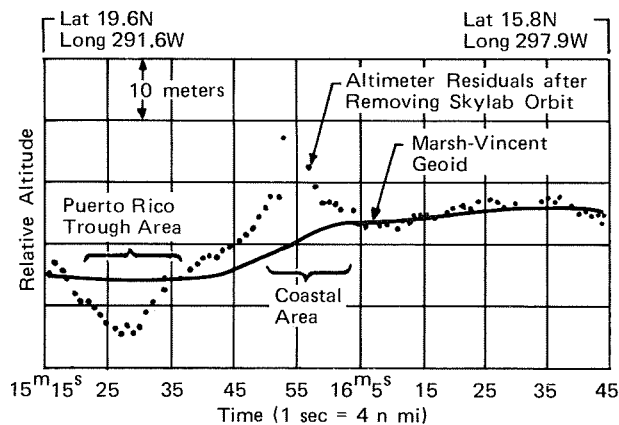


Figure 123 shows differences between the Marsh Vincent Geoid and EREP altimeter data over the Puerto Rico Trough area. Note that the ocean seems to be depressed over the trough in response to gravitational forces.

POTENTIAL USES OF EREP DATA

The following examples suggest possible EREP data applications that could be important to federal, state, and local governments as well as to industrial, academic, and private users.

Mineral Resources Exploration

Except for conventional photography, the use of remote sensing as a tool for mineral exploration has been largely experimental. Realizing the great potential of remote-sensing techniques, many major mineral-exploration organizations are beginning to incorporate them in their exploration programs.

It is important to keep remote-sensing techniques in proper perspective in an overall exploration program. They are tools best used with other exploration techniques to increase the chances (and decrease the costs) of locating potential deposits of minerals and hydrocarbons and to isolate specific areas that require more detailed analysis. A big advantage of satellite remote sensing over other exploration techniques is the ability to reconnoiter large areas in a relatively short time. This is especially true for EREP data because of the small scale (large areal coverage) and very low cost of interpreting this imagery. Undoubtedly, the cost per square mile of coverage is less for EREP and ERTS data than for any other available source.

Hydrocarbons—The current and projected high demand for hydrocarbons will be an incentive to escalate exploration for these vital resources. There are two primary applications of remote sensing that can aid the petroleum geologist in his search for new reserves.

First, using the capabilities of remote sensing for discriminating key lithologic units, he can eliminate vast areas underlain by igneous and metamorphic rock complexes that have little or no oil-bearing potential. In areas underlain by sedimentary rock, lithologic discrimination and correlation of key strata can be performed to determine their areal distribution and relationship to regional structure. This is required before evaluating the petroleum potential of an area. The degree of success that can be achieved in lithologic and stratigraphic discrimination using multispectral photographic camera data largely depends on the climatic conditions of the area of interest.

Figures 118 and 119 (page 128 ff) are classic examples of an arid region where a high level of stratigraphic and structural detail can be interpreted. Viewed either monoscopically or stereoscopically, the structural information in these photographs enables the petroleum geologist to pinpoint fold axes and determine potential areas of structural closure. In more humid areas, the lithologic and stratigraphic interpretations must be inferred from indirect indicators. Referring back to Figure 120 (page 130), for example, one can immediately recognize from the fold pattern that the area is underlain by sedimentary strata. In addition, the generalized stratigraphy can be worked out because of the resistant key units that form the ridges. Based on relative resistance of the key units to erosion, inferences can also be made about their lithology (sandstone, quartzite, conglomerate). The valleys are probably underlain by limestone and shales that, in this area, are less resistant to erosion.

Second, structural information is a benefit derived from EREP remote-sensor data for hydrocarbon exploration. Because a majority of all potential structural traps with surface expression have been mapped and drilled, it is the subtly expressed structures in heavily vegetated and relatively flat areas that remain to be discovered. EREP photographs are particularly well suited to regional mapping of surface drainage patterns in areas of low and moderate relief. Recognition of variations in the distribution of surface drainage patterns, drainage density, and channel linearity, permits certain inferences to be made concerning landforms, soil cover, and underlying lithology and structure. It is thus a valuable tool in petroleum reconnaissance. EREP data taken over foreign countries provide opportunities to examine areas that have heretofore been little explored.

Ore Deposits—Many parameters control the concentration of economically important minerals and these vary according to the type of mineral involved and the geologic province in which the mineral deposit occurs. It is beyond the scope of this section to discuss the many possibilities. However, to most

effectively use remote-sensor data for exploration, the more likely parameters associated with the occurrence of the mineral of interest in a particular geologic environment must be known. It is best to explore an area of known mineralization so that known deposits can be studied to determine their unique surface characteristics. For example, in one geologic region, copper deposits may occur at the intersections of faults. Because lineaments are easily mapped from space photographs, it would be a simple matter to locate several target areas for more detailed exploration. Figure 124 is an example. A particular surface color or vegetation type may often be associated with ore deposits.

In countries where mineral resource development is lacking, a less specific exploration rationale is required. Remote-sensor data can aid in eliminating areas of low ore-deposit potential, and target areas to be examined in detail will be more generalized. The efficient exploration director will consider using an intermediate scale of remote sensing from aircraft in the potential areas recognized in satellite images. The aircraft mission can be designed to provide the most valuable data, with consideration given to climate, terrain, vegetation, and the characteristics of the mineral deposit of interest.

Geothermal Resources—The tremendous potential of harnessing geothermal energy for conversion to electrical power has only been partly exploited. The energy crisis has focused attention on potential energy sources, and geothermal resources have assumed a much more important position than they had just a few years ago.

EREP data from the multispectral scanner can help explore for new geothermal resources and improve the definition and understanding of known geothermal areas. The scanner's thermal channel had two different detectors during the Skylab missions. In the first two manned missions (SL2 and SL3), the detector sensed differences in temperature on the order of 2°C. In the third mission, the detector sensed differences as small as 0.5°C.



SL2-04-205

Figure 124 is a multispectral camera stereogram of the Bisbee, Arizona, area showing an open-pit copper mine at A. Mapping structural trends in this south-



SL2-04-206

western porphyry copper region may provide a basis for identification of potential new mining areas.

To map details of a thermal anomaly with the multispectral scanner, the target must be larger than 260 feet (79 meters) in diameter and have enough thermal contrast with the background (2°C or 0.5°C depending on the detector in use).

Generally, these criteria are not met by features like hot springs, geysers, and pools of hot water—although such features may be detected if they are hot enough. However, if the entire ground area of a geothermal anomaly is elevated in temperature, detection is probable. This situation exists in the established geothermal power production field at The Geysers, California, about 75 miles (120 kilometers) north of San Francisco. Figure 125 shows radiometric data obtained from

the area that indicate that much of the valley containing The Geysers is considerably hotter than the surrounding terrain. Nearby undeveloped hot areas were also discovered that may provide the opportunity for more electrical powerplant development. Comparison of Figures 125 and 126 shows that a channel-13 EREP multispectral scanner image of this area provides enough detail to indicate its geothermal significance.

Thermal anomalies detected by EREP data should be investigated at an intermediate scale. Flying a thermal scanner at low altitude over the area will aid in confirming the discovery and defining the distribution and intensity of the anomaly.

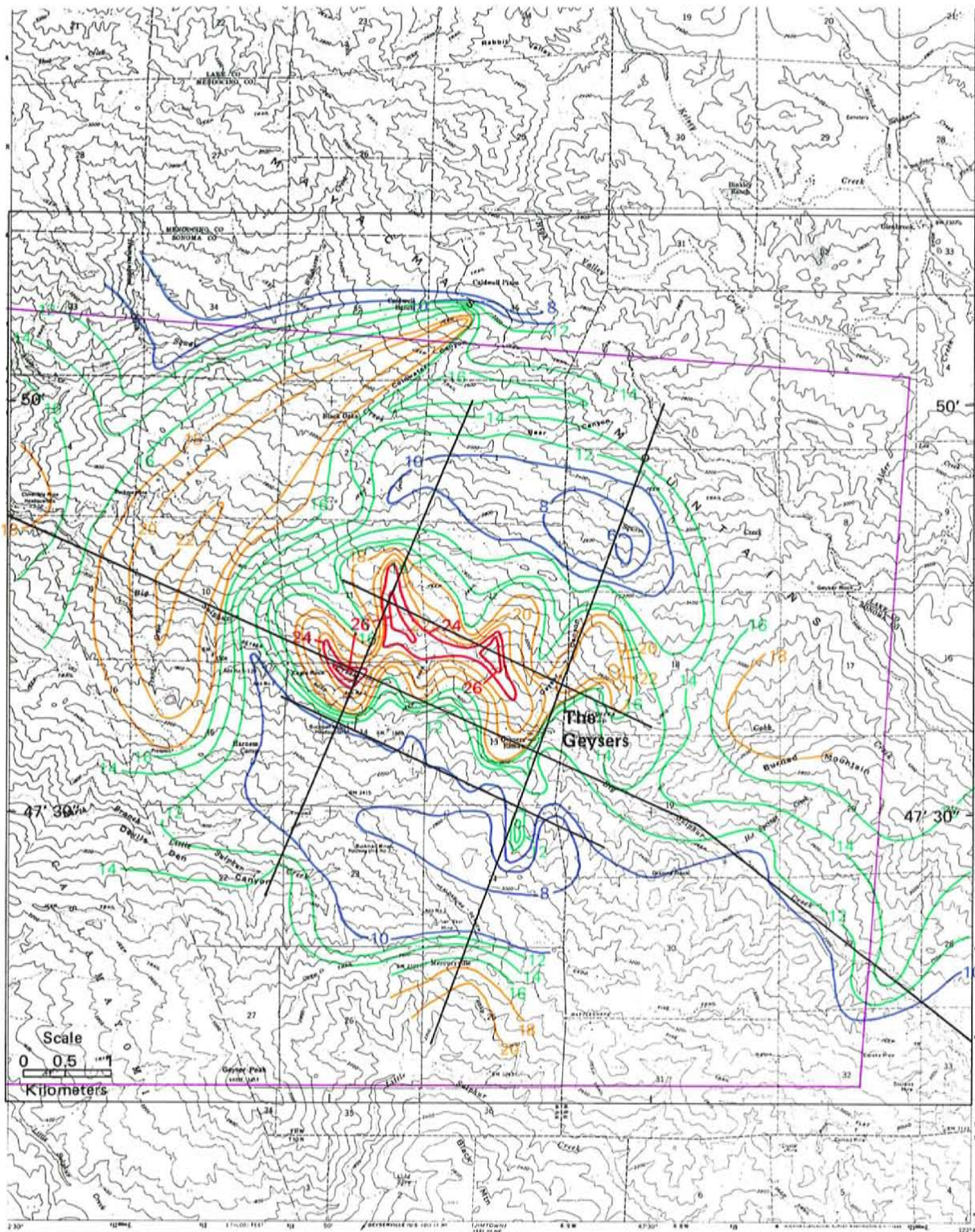


Figure 125 is a topographic map of The Geysers, California, area with a radiometric-temperature contour overlay. The contours are based on PRT-5 radiometer measurements from a helicopter on five

flight lines (shown in black) over the area. Considerable "contouring license" was used in areas for which few data are available.



a.

SL4-92-334

Figure 126a is an enlargement of an earth terrain camera color photograph of the same area showing the topography and vegetation. Figure 126b is a multispectral scanner image of the area outlined in violet in Figure 125 that depicts warmer areas as



b.

relatively light tones. The cooler north slopes are generally dark. The warmer south slopes are light, providing some topographic information. Note the similarities in the shapes of the thermal anomalies in the data from the helicopter and EREP scanner.

Environmental and Engineering Geology

Environmental and engineering geology are assuming increasingly important roles. Environmentalists are concerned with the total ecologic system, which requires an understanding of geologic influences on the environment. Engineering geology has always been an important consideration in the evaluation and selection of potential sites for dams, highways, tunnels, etc. However, there is a new realization of the importance of engineering geology, particularly for evaluating land capability and identifying potential geologic hazards that could have a bearing on planned regional development.

Land Capability—The topic of land capability or suitability is discussed in considerable detail on page 64ff. There are two features relating to geology and the environment that are detected at the scale of the EREP imagery. One of these is accelerated erosion that may result from overgrazing, poorly managed lumbering, removal of vegetation by forest fires, or special combinations of geologic characteristics. Figure 127 shows how evident erosion features are in a multispectral camera photograph.



z —◆—

SL2-10-124

Figure 127 is a multispectral camera photo that shows the effects of headward erosion encroaching on grazing areas and cropland in South Dakota. The high erosion rate occurring below the escarpment, characterized by the fine-textured drainage pattern, indicates clays and shales. This area is of course poorly suited to any kind of development.

The effects of strip mining on the environment can also be seen in multispectral and earth terrain camera photographs. Figure 80 (page 83) plainly shows the effects of coal mining in Alabama. Strip mining can be expected to play an important role in America's future as coal and oil shale are relied upon to meet the increased energy demands. EREP photographs of areas that will be developed can provide a reference for terrain conditions before mining activities begin. Future space missions (notably Space Shuttle) will provide data that can be compared with EREP data to determine what environmental changes have occurred. This technique will provide a good test of restoration methods and compliance with government restoration requirements.

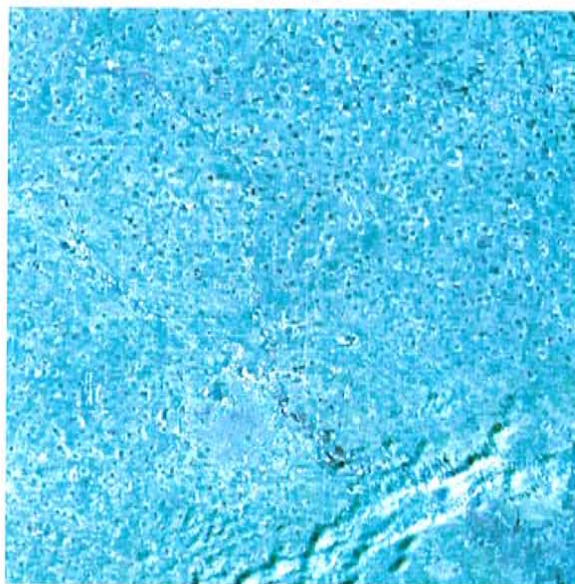
Geologic Hazard Evaluation—Whenever tragedy strikes a country—be it earthquake, volcanic activity, floods, or landslides—we are aware of the reality of geologic hazards. Although the ability to predict the time of these catastrophes is still in the research stages, it is possible to detect and delineate potential geologic hazards and make people aware of the dangers involved.

The most classic example of a geologic hazard and its relation to people is the San Andreas fault in California. Figure 122 (page 132) clearly shows a section of the famous fault trace where it intersects the Garlock fault. Movements along the San Andreas and related faults have killed hundreds of people and caused billions of dollars worth of property damage. In spite of this, recently constructed housing developments are situated along the trace of the San Andreas fault just south of San Francisco.

Space photographs clearly show faults of major importance and permit mapping many faults in a short time. Further investigation of these faults by geologists can determine

whether they are active or dormant. If concern is warranted, proper action can be taken to warn people who are already involved in the dangerous areas (i.e. homeowners, businesses, schools, etc) and proper zoning can be established to discourage further development in these areas.

Terrain underlain by limestone, dolomite, or anhydrite (gypsum) is particularly susceptible to attack by solution, which can present special geologic hazards to construction and result in ground collapse and destruction of structures on the surface. Figure 128 is an example of how some of these hazardous areas can be detected in EREP photographs. Because of differences in vegetation in such localities, areas of impending collapse may also be detected.



SL2-09-028

Figure 128 is a multispectral camera color-infrared photo of karst topography in western Texas. Note the pockmarked terrain—the result of subsurface solution of water-soluble rocks, with attendant sinkholes and solution depressions. These areas are susceptible to ground collapse, which makes any construction extremely hazardous and costly.

SUMMARY OF END PRODUCTS

There are several products that can be derived from EREP data. The most obvious are interpretive geologic maps of relatively small scale. These are useful in dealing with many geologic problems and can provide a reference for more detailed mapping by aircraft remote-sensing or field methods.

Landform survey maps of entire regions can be compiled with relatively little effort to provide insight into the geology, climate, and physical geography of an area. EREP photos of classic landforms can be excellent training aids for earth science students at the high school and college levels. The use of EREP data in textbooks and classroom visual aids can do much to enhance the relevance of our educational curricula.

Mineral exploration target maps can be constructed with a rating system to indicate the relative likelihood of mineralization of each target area. Decisions on further exploration, such as aircraft remote sensing, seismic profiling, geochemical analysis, or field mapping, could be substantially aided by such maps.

Regional geologic-hazard baseline maps that indicate areas of potential danger can be produced from multispectral camera images. These maps could be used by legislators, planners, and developers to direct more detailed studies to discourage further development in dangerous areas. The EREP photographs, in themselves, provide a useful record from which to measure changes in dynamic geologic features. In the future, similar space photographs will be available for comparison.

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 89. *Chlorophyll ajz* (Chl *ajz*)
 90. *Chlorophyll akz* (Chl *akz*)
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 107. *Chlorophyll azaa* (Chl *aza*)
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 131. *Chlorophyll ayz* (Chl *ayz*)
 132. *Chlorophyll ayz* (Chl *ayz*)
 133.

VII. AGRICULTURE, FOREST AND RANGE RESOURCES

The information requirements for effective management of agricultural, forest, and range resources are enormous. Remote-sensor data from spacecraft and aircraft can dramatically decrease the time and cost of obtaining the required accurate inventory information. The timeliness of information from remote sensor data can improve planning and management techniques and permit early assessment of their effectiveness.

In agriculture, remote-sensor data can provide information that will improve crop inventories and yield estimates, determine relative crop vigor, and sometimes permit early detection and assessment of the effects of crop-damaging agents like disease or insect infestations. Similar applications in forestry and range management include forest and range resource inventories, detection and mapping of disturbed areas, estimates of timber yield, reconnaissance for potential logging operations, location and mapping of forest- and range-fire damage, animal carrying capacity of range forage, and multiple-use planning for forests and range lands. In many of these applications, especially forestry, remote sensing from aircraft has already proved to be a valuable tool for resource management.

Because of the dynamic nature of vegetation, repeated inventories are needed to monitor changes and assess development. The schedules for such inventories vary from weeks or months for some agricultural applications to years or decades for some forestry applications. Obtaining the information by ground

survey techniques is often costly, time-consuming, and may not provide the timely data needed for effective resource management.

The lack of repetitive coverage of Earth Resources Experiment Package (EREP) data may limit its usefulness for some management problems. For example, agricultural statistical reporting services may need remote-sensor data on weekly or monthly cycles to monitor crop developments and make timely yield estimates. For such applications, repetitive coverage like that obtained from the Earth Resources Technology Satellite (ERTS) is necessary. For areas where EREP coverage is available, it provides a data baseline from which future changes can be measured. Also, in some cases, the high spectral and spatial resolution of EREP data may permit better interpretation of ERTS data. For example, areas that appear homogeneous on ERTS imagery may actually include different types of vegetation that can be easily discriminated using EREP imagery of the same area.

Perhaps the primary utility of the EREP data base for vegetation is in the development of qualitative and quantitative techniques for applying spacecraft remote-sensor data to operational resource management problems. Many of these techniques are still in the experimental stage, and further research is needed. The high quality of EREP data should expedite this development. For example, many important agricultural crops can already be identified with relatively good

accuracy using ERTS multispectral scanner data. The higher spectral resolution of the EREP multispectral scanner should improve the accuracy of crop identification and may reduce the number of ground samples required to achieve a particular accuracy for vegetation inventories.

In addition to advancing the development of techniques, EREP data can be a valuable training aid in the application of remote sensing to the management of vegetation resources. Investigations with EREP data are also used to select sensors and develop specifications (e.g., wavelength bands, spatial and spectral resolution) and data requirements for future operational spacecraft systems to meet specific user's needs.

APPLICABILITY OF EREP DATA

The three sensor systems with the greatest potential for agriculture, forest and range resources are the multispectral photographic camera, earth terrain camera, and multispectral scanner. In addition, the microwave radiometer and scatterometer and the L-band radiometer are potentially useful for determining physical and thermal properties of soils. The EREP sensors and their data products are described in Chapter I (page 5ff).

Photographs from the two camera systems have perhaps the broadest immediate application for studies of vegetation. For many resource applications, interpretation of these photos does not require sophisticated equipment nor a high level of training in remote-sensing techniques.

Conventional photointerpretation techniques based on variations in color, tone, pattern, and texture can be used to detect and classify vegetation. The multispectral camera provides simultaneous synoptic images of an area 88 nautical miles (163 kilometers) square in color, color-infrared, and four black-and-white spectral bands. The characteristics, resolution, and utility of each of the six multispectral camera stations for natural-

resource applications are shown in Table 8 (page 56). The usefulness of individual spectral bands will depend on the particular resource application of interest.

The earth terrain camera, with its 18-inch (46-centimeter) focal length, provides higher spatial resolution than the multispectral camera, while covering an area 59 nautical miles (109 kilometers) square. Characteristics of earth terrain camera products are shown in Tables 3 and 4 (page 11).

For users who have access to the necessary equipment, computer processing of multispectral scanner data offers some of the most promising techniques for inventorying vegetation. However, in most cases, these techniques are still under development for application to operational resource problems.

All 13 channels of the EREP multispectral scanner are potentially useful for agricultural, forest- and range-resource applications, although the visible and near-infrared wavelength bands are most often used. Tables 5 and 6 (pages 44 and 45) show the characteristics and utility of each scanner channel.

EXAMPLES OF TECHNIQUES

Vegetation stratification and classification are important first steps in using spacecraft remote-sensor data to inventory agricultural, forest, and range resources. EREP imagery can be used to delineate or stratify a region into units of relatively homogeneous appearance. These strata can then be classified, either by photointerpreters or by computer programs designed to recognize spectral signatures. In a multistage sampling approach to inventorying vegetation, several different data-collection systems are used to obtain progressively more detailed information for progressively smaller subsamples of the area of interest. Information obtained at each stage or level of detail can then be correlated to provide accurate resource information for inventorying large areas.

For example, EREP imagery can be used to classify vegetation into meaningful strata or classes for a particular application. Representative samples in each stratum can then be selected and classified using large-scale aircraft imagery of the sample areas. Finally, still smaller subsamples can be selected for detailed study using ground survey techniques. This represents a three-stage approach to resource inventories using remote-sensor data. A two-stage inventory approach could involve the use of EREP and aircraft imagery, or EREP and ground data. Depending on the stratification accuracy and sample selection efficiency at each stage, inventories of large areas can be obtained with minimum ground work. Many current investigations with EREP data are concerned with developing the statistical models and sampling techniques required for inventorying vegetation.

Several vegetation classification systems have been designed to be compatible with the various types of remote-sensor data available. These systems are hierarchical—capable of dealing with both the very general and very specific information required by the user. Such classification systems are valuable for presenting information obtained by remote sensing in a meaningful, systematic form in order to provide the basis for resource management and planning decisions. A hierarchical classification scheme also provides a measure for comparing the information obtained at different levels of scale or resolution and for comparing results from different information extraction techniques.

EREP data are being used to evaluate the usefulness of various classification schemes for agricultural or natural vegetation applications and to determine the level of classification that can be achieved with high-quality spacecraft remote-sensor data. One type of resource classification system, concerned primarily with land use, was discussed in Chapter III (page 69ff). Several other hierarchical classification schemes have been developed that include ecological parameters as well as vegetation or land use classes.

Agricultural Land Use Stratification and Classification

Stratifications provide a basis for agricultural inventories and are used to select sample areas for collection of detailed ground data on crop type, acreage, intended land use, etc. Agricultural land use stratification maps now used by agricultural statistical reporting services are sometimes several years out of date. EREP data can be used to locate and update these strata boundaries in certain areas to improve the accuracy of crop statistics. Stratification and classification also provide the initial inputs to multistage sampling systems for remote-sensor agricultural resource inventories.

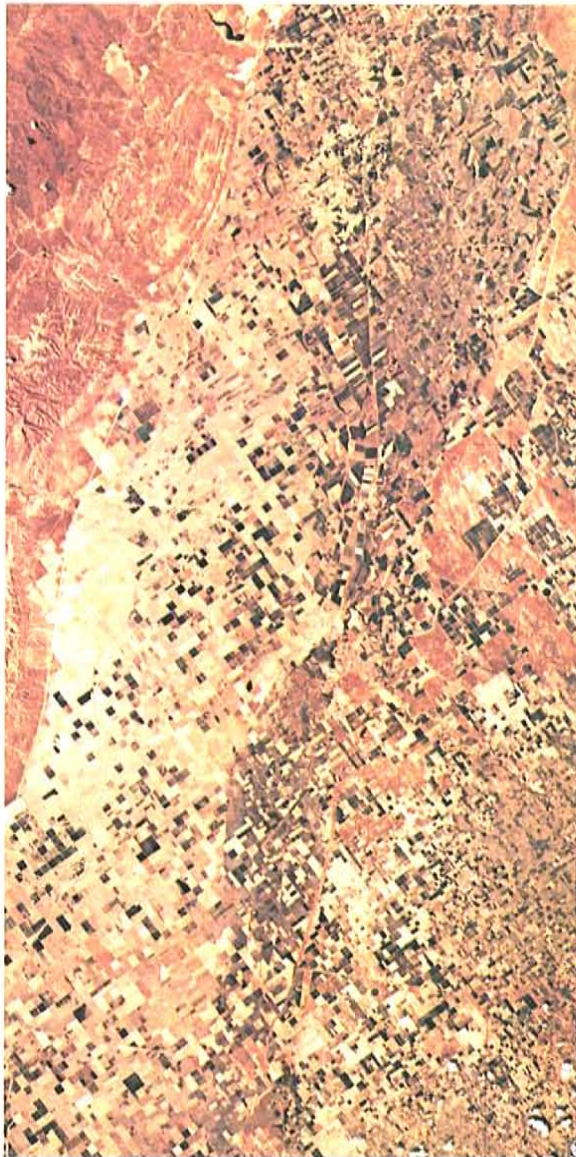
Figure 129 illustrates the usefulness of EREP color and color-infrared photographs for agricultural land use stratification. Both color and texture can be used to delineate and classify agricultural strata. Color differences are closely related to the type of crop. For example, in Figure 129a, buff-colored areas are grain stubble fields, bluish-gray areas are associated with sparsely vegetated and bare soil, and green indicates highly vegetated fields (sugar beets, tomatoes, and melons). Figure 129b shows the advantages of color-infrared film for agricultural stratification. For example, in the color photograph (Figure 129a), it is difficult to discriminate between vegetated fields (which appear dark green) and burned or flooded fields (which appear black). In the color-infrared photo (Figure 129b) vegetated areas appear bright red in contrast to the barren fields. The large black areas in Figure 129b indicate rice-growing areas that were flooded in June when the photograph was taken. Also, moisture differences between different types of soil show better contrast in color-infrared than in color photos.

Texture, or the frequency of tone or color change per unit area, depends on both the proportion of the area planted with a particular crop and the size of the field. Texture is generally a good indicator of agricultural land

use. Areas with coarse texture [field sizes of 80 to 160 acres (about 30 to 60 hectares)] indicate predominantly field crops, while areas with medium texture [field sizes of 30 to 80 acres (about 10 to 30 hectares)] indicate a mixture of field and vegetable crops. Fine-textured areas [field sizes of 10 to

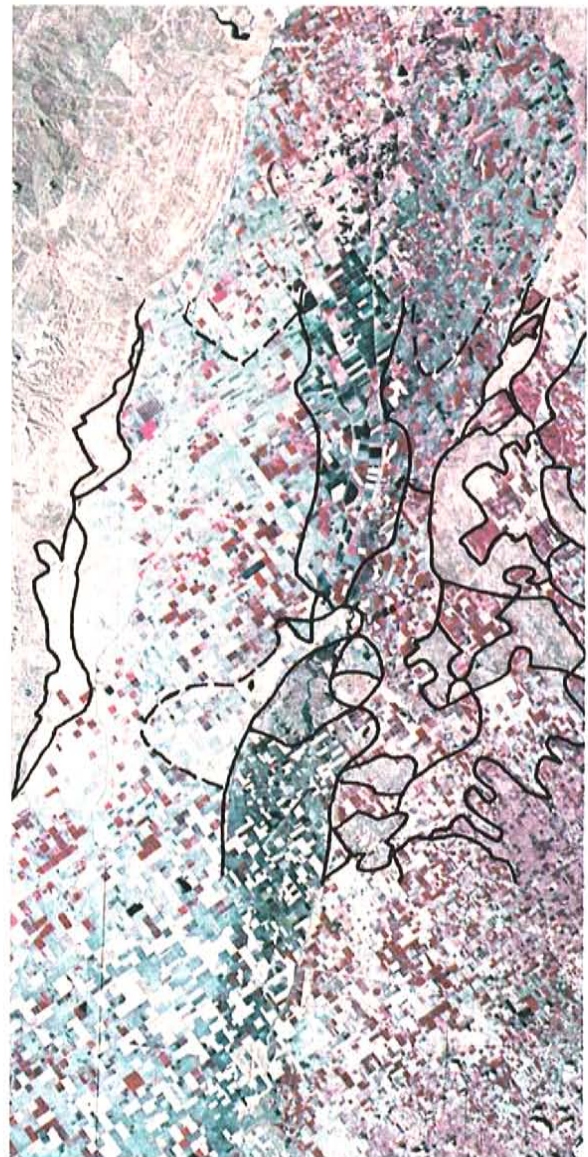
20 acres (4 to 8 hectares)] indicate vineyards and pastures.*

* Robert N. Colwell and Andrew S. Benson, *Agricultural Interpretation Technique Development, Quarterly Progress Report, Remote Sensing Research Program* (Berkeley, California: Space Sciences Laboratory, University of California, November 1973).



a.

SL2-04-121



b.

SL2-03-121

Figure 129a is a multispectral camera color photo of the southwestern San Joaquin Valley taken by Skylab 2 on June 3, 1973. Figure 129b is a color-infrared image of the same area, showing preliminary agricultural land use stratification. (Stratification courtesy

of Remote Sensing Research Program, Space Sciences Laboratory, University of California, Berkeley.)*

* Unless otherwise noted, figures show only part of an EREP photograph—multispectral camera photos enlarged 4X and earth terrain camera photos 2X.

The two-step process of stratification and subsequent classification of each stratum increases the accuracy of crop inventory estimates obtained by manual photointerpretation of EREP photographs because the number of classes that must be simultaneously handled by the interpreter is reduced. Stratification also facilitates automatic crop classification from multispectral scanner digital data

because of the reduced variability within each stratum.

Figure 130 is an example of EREP multispectral scanner data that is being used to evaluate techniques for automatic crop classification based on spectral and spatial characteristics. The color composite was generated from digital scanner data by assigning colors to different spectral bands.

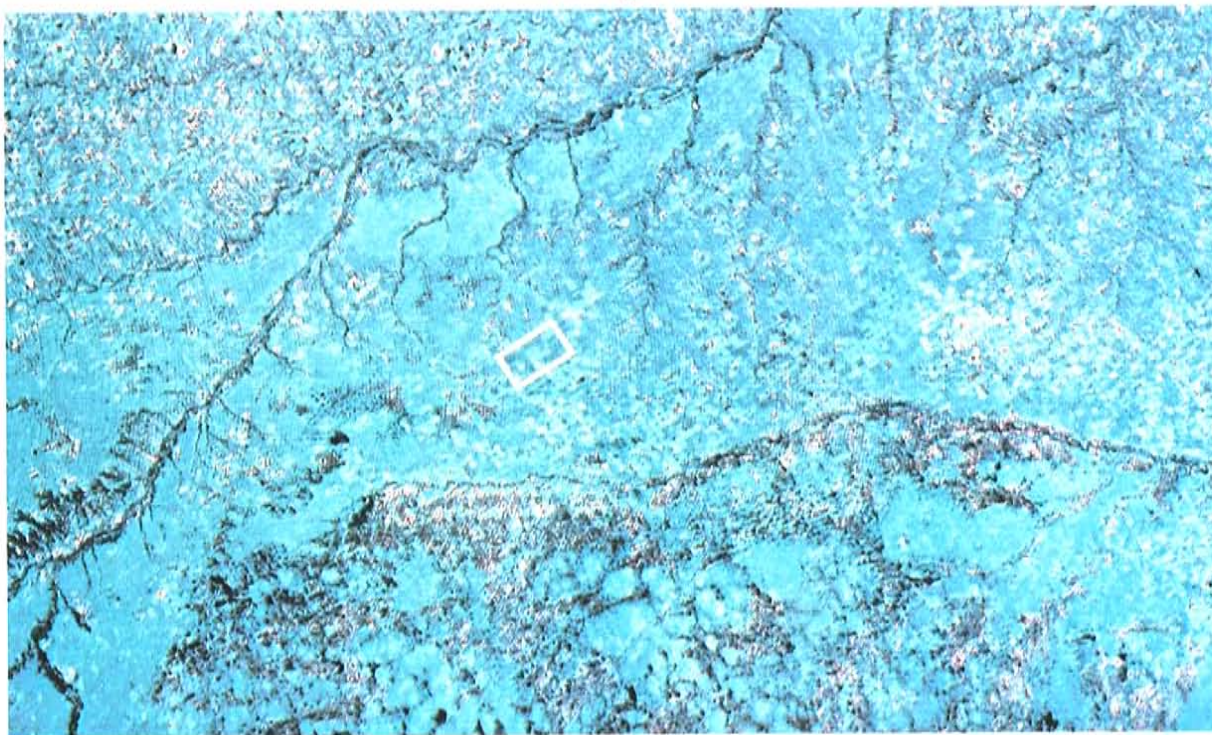


Figure 130 is a color composite created from EREP multispectral scanner data of an area of Holt County, Nebraska. This is typical wheat country. When the data were obtained (early June), the wheat was barely emerging, and the fields appear in shades of blue and green. The reddish areas represent trees and grass-type vegetation along the drainageways. The white rectangle encloses the test site where specific ground information is available. From this information, identification of crops can be extended to similar features over a large area. The circular areas are

quarter-section sprinkler-irrigated fields, 0.25-mile (0.4-kilometer) across. The irrigated area for each of these is about 135 acres (55 hectares).

The composite was made by assigning blue to scanner band 2 (0.44 to 0.52 micrometer), green to band 7 (0.75 to 0.90 micrometer), and red to band 11 (1.48 to 1.85 micrometers). These images are used primarily for visualization of areal coverage and data quality. Actual data processing is usually done from digital tapes.

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Crop Acreage and Yield Estimation

Figures 131 and 132 illustrate how ERTS, EREP, and aircraft imagery of the same area can be used in a multistage sampling approach to crop inventories. Using such imagery, The Earth Satellite Corporation is developing improved techniques for regional and global inventories of rice—one of the world's major food crops. The multispectral camera photograph in Figure 131 has been stratified to show major rice-growing areas and other agricultural land use classes in the Sacramento Valley.

In addition to providing a basis for crop inventories, Figure 131 shows how EREP color and color-infrared photographs can be used to stratify and measure irrigated and unirrigated agricultural land. (See legend.) Information on the amount of land under irrigation can be valuable to state, regional, and federal agencies responsible for management of agricultural water resources.

Legend

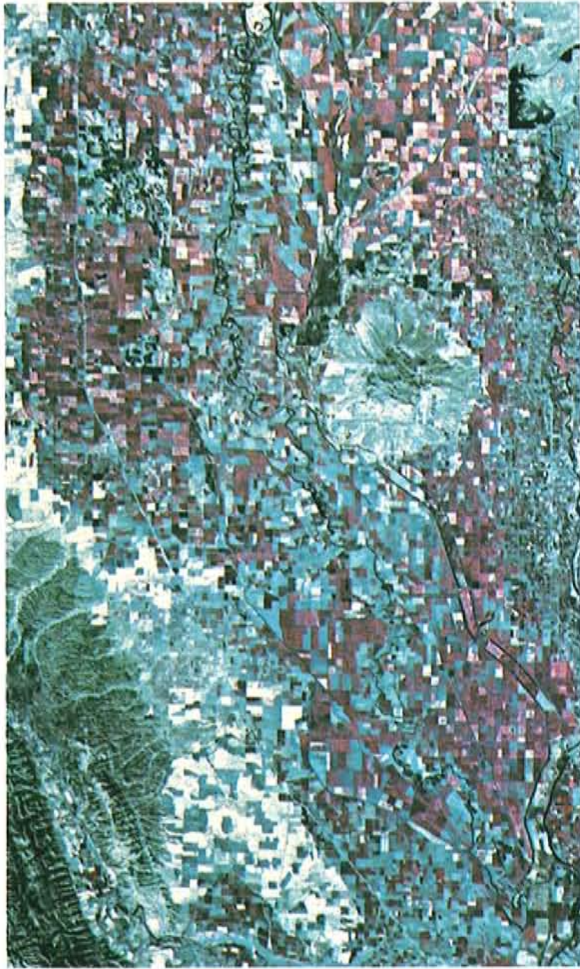
- A Predominantly rice culture; other uses include safflower, tomatoes, sugar beets, & pasture
- B Predominantly orchards & vineyards; also some mixed truck farming of row crops
- C Mixed row crops or truck farming, including tomatoes, sugar beets, beans, wheat, oats, barley, melons
- D Marshy or alkali areas of limited agricultural use
- E Dry land, unirrigated farming; mostly wheat, oats, barley, & hay
- F Predominantly shrubs & annual grasslands
- G Urban & suburban land use
- H Mine tailings



a.

SL3-40-140

Figure 131a is a multispectral camera color photo of a major rice-growing area of California's Sacramento Valley, taken in September 1973 by Skylab 3, stratified into eight major agricultural and land use



b.

SL3-39-140

strata. (Stratification courtesy of Steven J. Daus, Earth Satellite Corporation, Berkeley, California). Figure 131b is a color-infrared image taken simul-



c.

ERTS 1417-18161

taneously of the same area, and Figure 131c is an ERTS color composite of the area, also recorded in September 1973.

Figure 132 illustrates how EREP photographs can be enlarged to permit more detailed interpretation and correlation with aerial photographs in a multistage sampling approach to agricultural inventories. Color, field size, and characteristic sinuous dike patterns (Figure 132c) are the primary features used to recognize rice fields. Alfalfa fields may also show dike patterns but these are generally straighter and closer together. Using high-quality transparencies at large magnifications, dike patterns of rice fields can be discerned in EREP photographs.

Preliminary analyses of earth terrain camera photographs for this area have demonstrated that rice fields can be identified with 95-percent accuracy using manual photointerpretation techniques. After rice-field boundaries have been delineated, an image analyzer is used to determine the total area of the fields. Using such techniques, photointerpreters at

Earth Satellite Corporation were able to estimate rice acreage for a 20-square-mile (52-square-kilometer) area to within 2 percent in only 10 hours. A rough estimate of yield can be made from this information by multiplying the rice acreage by average yield per acre determined from other sources, such as previous crop statistics.

Accurate estimation of crop yield from remote-sensor data can be a complex problem because of the many factors that affect crop vigor, such as different cultural practices (e.g., timing and amount of fertilizing) and yield-reducing factors like disease, pests, weeds, and hail. Once total crop acreage has been determined, a subtractive process is used to assess the effect of yield reduction factors. EREP data are being evaluated to determine the extent to which yield factors can be identified and quantified.



a. Earth terrain camera 2X

SL3-86-329

Figure 132 Multistage Photographs of Agricultural Resources in the Sacramento Valley, California.



b. Earth terrain camera 9.5X (approximately 1:100,000)

SL3-86-320



c. Aircraft color infrared

01313-0113

Figure 132 (continued)

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Figure 133 illustrates the advantages of repetitive or "multidate" images for improved crop identification and inventory accuracy. Although the signatures of rice fields may appear similar to those of other crops at certain times of the year, crop calendar information or some knowledge of agricultural practices for a particular region can be used for accurate crop discrimination and identification in sequential images. For example, in the area shown in Figure 133, rice fields are planted in May and are mostly

flooded with water in June when the Skylab 2 photographs were taken, although plants are starting to emerge from the water in some fields. Consequently, rice fields appear dark blue to black in the June infrared photos. Rice matures in this region during late September and early October, when most other crops have been harvested. In the September color-infrared photograph, rice fields generally appear red and can be easily discriminated from stubble fields of harvested crops, which appear blue.



a.

SL2-04-180



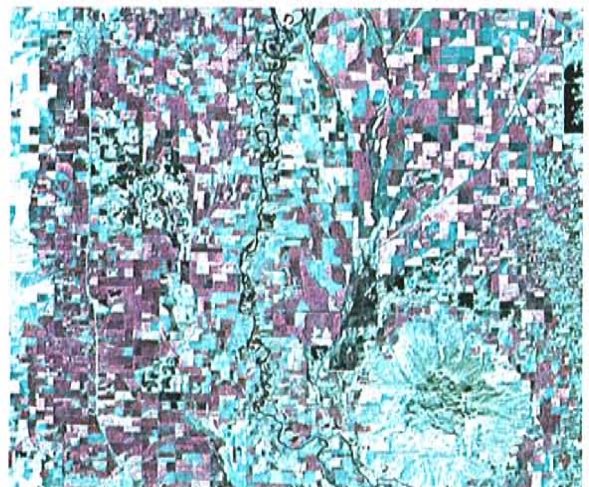
b.

SL2-03-180



c.

SL3-40-140



d.

SL3-39-140

Figure 133 shows portions of multispectral camera color (left) and color-infrared (right) photographs of the Sacramento Valley taken at different dates. Figures 133a and b were taken in June when rice-growing areas (A) appear blue or black in the

color-infrared photos. Figures 133c and d were taken in September when rice is growing vigorously and rice fields appear dark green in the color photo and bright red in the color-infrared.

Forest and Range Resources

The EREP data base is potentially more useful for forest and range-resource than for agricultural applications because the requirements for updated inventories are generally less frequent. For example, at present, most National Forest inventories and management plans are updated every ten years. However, the increased multiple-use demands for forest and range resources will require improved inventory techniques for effective resource management. EREP data can provide both the synoptic coverage and accurate detailed information needed to update resource inventories and management plans for vast areas of forest and range land.

Forest and Rangeland Stratification and Classification—As discussed earlier in this chapter, vegetation classification systems are important for providing meaningful information to resource managers, planners, and government agencies. The U. S. Forest Service has developed a hierarchical ecosystem classification scheme for improved multiple-use planning and management of forest and range resources. The method, termed ECOCLASS, links vegetation, land, and aquatic systems to allow primary description and classification of relatively permanent ecosystems. Table 10 shows the components of the vegetation system proceeding from the detailed *Community Type* unit to the most general *Formation*. Of the five ecological levels of classification in the table, *Habitat Type* represents the level of information required by district managers to make resource management decisions.

Both ERTS and EREP remote-sensor data are being evaluated by the Forest Service to determine their usefulness in classifying natural ecosystems. Investigations* have demonstrated that ERTS color composites allow clear definition of *Formation* and *Region*

Table 10 Vegetation Units of the ECOCLASS Classification Method for Forestry and Range Management Applications*

Community Type	Collective term for those areas of land supporting or capable of supporting the same type of stable plant community
Habitat Type	Land areas capable of supporting the same climatic plant association (e.g., Ponderosa Pine/Bitterbrush <i>Habitat Type</i> , Bluebunch Wheatgrass-Sandberg Bluegrass <i>Habitat Type</i>)
Series	Groups of <i>Habitat Types</i> having a common climax dominant species (e.g., Ponderosa Pine <i>Series</i> , Bluebunch Wheatgrass <i>Series</i>)
Region	Group of series with similar physiognomy and climatic controls (e.g., Steppe Grassland <i>Region</i> , Temperate Mesophytic Coniferous Forest <i>Region</i>)
Formation	Groups of <i>Regions</i> with similar physiognomy (e.g., Grassland <i>Formation</i> , Coniferous Forest <i>Formation</i>)

* ECOCLASS—A Method for Classifying Ecosystems (Washington, D.C.: United States Department of Agriculture, Forest Service, 1973) p. 7.

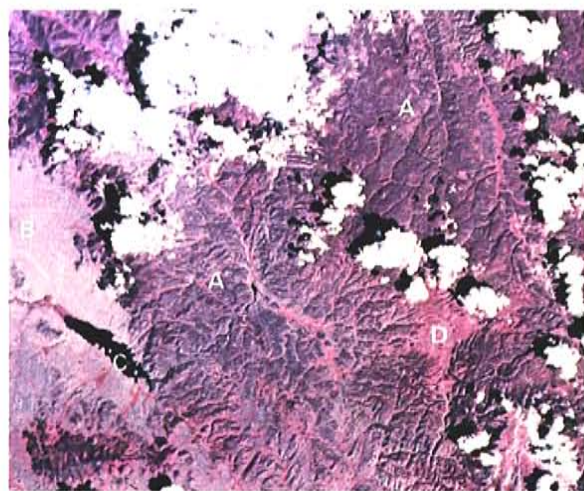
categories using visual interpretation. Classification at the *Series* level is not possible with ERTS imagery unless there is high scene contrast between the classes of interest. Using computer classification techniques with ERTS multispectral scanner digital data, classifications to the *Series* level can be achieved by taking into account the effects of slope, aspect, and mountain shadows. Similar investigations are being conducted with EREP imagery and scanner data using visual interpretation, microdensitometry, and digital processing to determine the classification levels and accuracies that can be achieved.

* Richard S. Driscoll, et al, "ERTS-1 Data for Classifying Native Plant Communities—Central Colorado." Ninth International Symposium on Remote Sensing of Environment, April 1974.

Figures 134 and 135, illustrate how ERTS, EREP, and aircraft imagery can be used in a multistage approach to stratification and classification of forest and range resources. All three images were taken in August when vegetation in this area is at a peak stage of growth. The imagery was classified using a hierarchical legend system similar to one previously developed.[†] Examples of primary and secondary classes for natural vegetation are shown in Table 11. The secondary classes are roughly equivalent to the *Formation* level. The symbolic legend system is in decimal form, designed to be compatible with computer processing and multistage inventory techniques. Figure 134 shows how

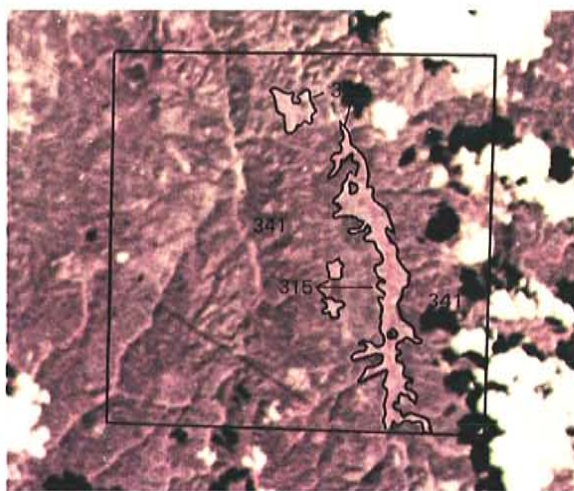
color-infrared imagery can be used to map forest and grassland vegetation by visual interpretation. Figure 134b and 134c illustrate that EREP photos have higher resolution and enlargement capability than ERTS composites for classification of vegetation at the *Region* level. Topographic features are also much more distinct in the EREP photos than in the ERTS imagery. Figure 135 shows how aircraft imagery can be used for more detailed classification of vegetation to the *Series* level.

[†] Charles E. Poulton, "A Comprehensive Remote Sensing Legend System for the Ecological Characterization and Annotation of Natural and Altered Landscapes," *Eighth International Symposium on Remote Sensing of Environment*, Vol 1 (Ann Arbor, Michigan: University of Michigan, 1972) p 393 ff.



a.

SL3-21-107



b.

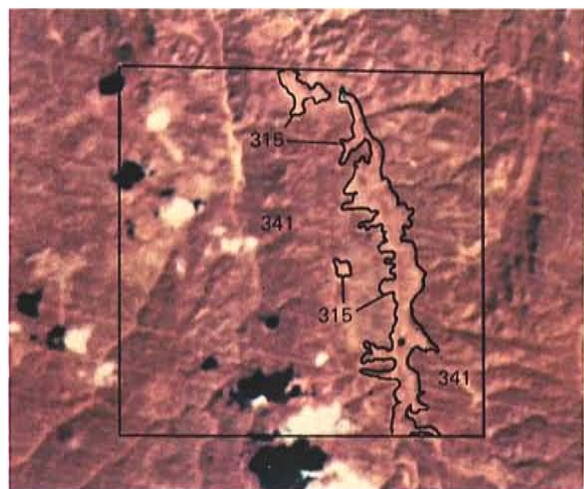
SL3-31-107

Legend

EREP + ERTS

341 = Temperate Mesophytic (medium moisture requirements) Coniferous Forest *Region*: contains inclusions of Deciduous Forest & Shrub/Scrub Systems too small to resolve or map

315 = Montane Mixed Sodgrass - Bunchgrass *Region*: contains inclusions of Meadows & Hydrophytic Shrub Systems too small to resolve or map



c.

1388-17134

Figure 134 is part of a multispectral camera color photograph of central Colorado showing parts of Pike National Forest (A) and South Park (B), which is primarily rangeland. Eleven-Mile Reservoir is at C. Pikes Peak is obscured by clouds. Reddish-purple (A) indicates coniferous forest (ponderosa pine, Douglas fir), and brighter red in drainages (D) indicates deciduous trees or shrubs and meadow grasses. Figures 134b and c are enlarged portions (approximately 1:250,000 scale) of EREP and ERTS imagery showing stratification and classification of forest and grassland vegetation at the *Region* level.

Table 11 Example of Symbolic Legend System for Natural Vegetation Classifications*

Earth Surface and Land Use Features—Primary Classes	
100	Barren Land
200	Water Resources
300	Natural Vegetation
400	Cultural Vegetation
500	Agricultural Production
600	Urban & Extractive Industry
Secondary Natural Vegetation Classes	
310	Herbaceous Types
320	Shrub/Scrub Types
330	Savanna-Like Types
340	Forest Land
390	Undifferentiated Natural Vegetation

* Charles E. Poulton, "A Comprehensive Remote Sensing Legend System for the Ecological Characterization and Annotation of Natural and Altered Landscapes," *Eighth International Symposium on Remote Sensing of Environment*, Vol. I, (Ann Arbor, Michigan: University of Michigan, 1972) p 393ff.

Timber Yield Estimates—EREP photographs may be superior to those from high-altitude aircraft for determining timber volume in rugged terrain. Relief displacements distort the size of sample areas on vertical aerial photographs, making the areas appear smaller if they slope away from the camera and larger if they slope toward it. The displacements are so small in space photographs that they can be ignored without significant errors in area estimates.

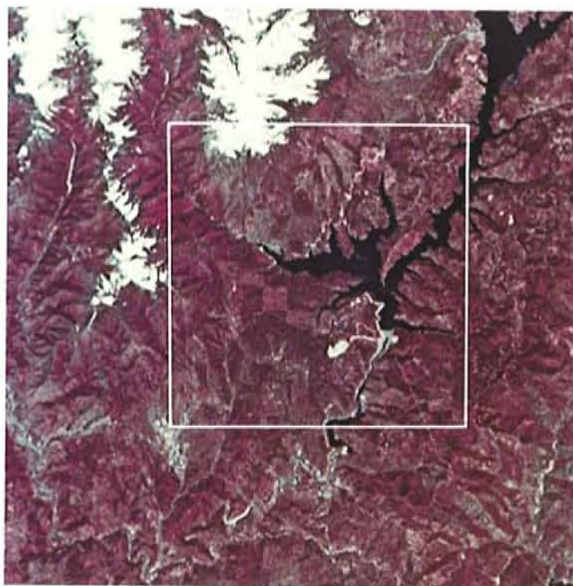
Investigators at Earth Satellite Corporation are developing manual and digital interpretation techniques for timber inventory using EREP photographs and scanner data for the area shown in Figure 136. Prediction of timber volume in this area presents special problems because of the extremely mountainous terrain, continuous variation of timber species mix with varying crown cover, and irregular boundaries of land parcels.



a.

SL2-04-178

Figure 136a is an enlarged portion (1:500,000 scale) of a multispectral camera color photo of Trinity National Forest in California showing Trinity Dam and Reservoir. Figure 136b shows the same area in color infrared. The parcel map (Figure 136c) divides

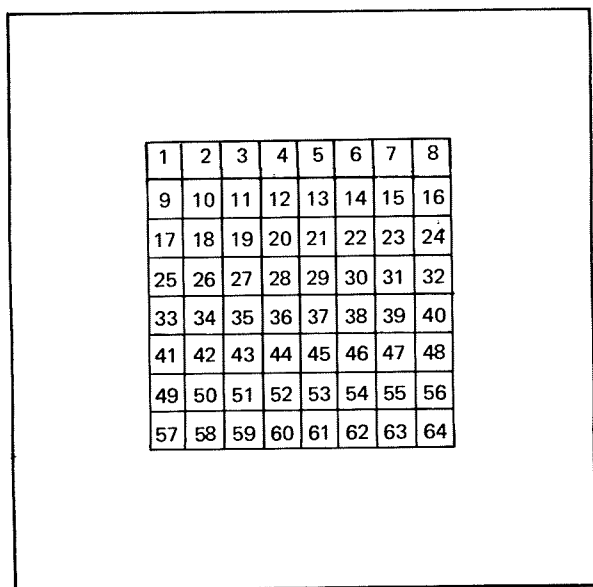


b.

SL2-03-178

the area outlined on Figure 136b into 1-mile (2.6-kilometer) square sections. Timber volume for each section is shown in Table 12. The checkerboard feature (A) results from irregular ownership patterns and variations in forest land use by different owners.

A regression-type interpretation model has been developed for timber volume prediction using independent variables interpreted from EREP infrared photographs like that shown in Figure 136b. This type of model is more consistent and less subjective than a direct ocular estimation method. Three independent variables were interpreted: (1) percentage of land parcel in dark red, representing conifers, (2) percentage of parcel in bright red, representing hardwoods, and (3) percentage of parcel in blue, representing barren land, or black, representing water. The dependent variable used was conifer timber volume per square mile. The interpreted variables were regressed, or correlated, with a sample of parcels of known timber volumes determined from previous forest inventories in the vicinity of the test area. Table 12 shows the results of timber volume predictions for the square-mile (2.6 square-kilometer) sections shown in Figure 136.



c. Parcel map (Courtesy Earth Satellite Corporation, Berkeley, California)

The sections are alternately owned by the Southern Pacific Land Company and the federal government. Conifer timber has been harvested in the sections that appear lighter red.

Table 12 Predicted Timber Volumes for Square-Mile Sections of Forest Land from Manual Interpretation of Figure 136*

Section Number	Predicted Volume, 1000 board feet/square mile †	Section Number	Predicted Volume, 1000 board feet/square mile †
1	5360	33	0
2	5449	34	0
3	4383	35	7426
4	4872	36	8781
5	2917	37	4383
6	7138	38	7573
7	5960	39	6383
8	1940	40	6961
9	4037	41	0
10	4358	42	5178
11	8292	43	3229
12	6337	44	6853
13	8781	45	8692
14	6160	46	4075
15	5849	47	7826
16	4206	48	6472
17	5729	49	3175
18	3894	50	6142
19	6435	51	7715
20	6142	52	5708
21	7803	53	6383
22	4872	54	8692
23	1274	55	8692
24	5960	56	7515
25	2590	57	5806
26	0	58	6391
27	1451	59	6337
28	1549	60	7803
29	4187	61	8781
30	1043	62	7803
31	7626	63	8781
32	8115	64	6472

* Courtesy Earth Satellite Corporation, Berkeley, California

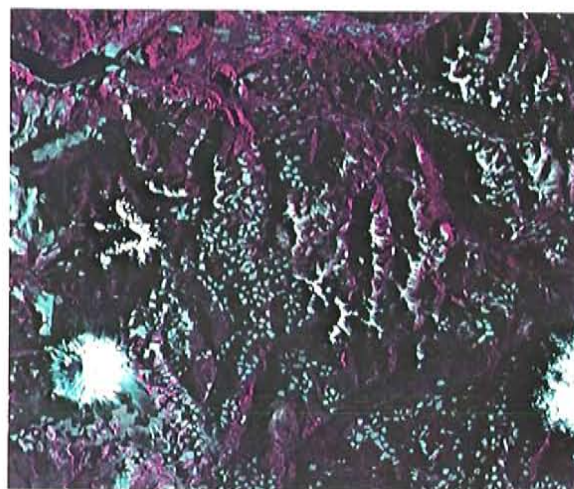
† 0.91 cubic meter/square kilometer

Assessment of Logging Operations—Figure 137 shows how EREP data can be applied to forest inventories and assessments in clear-cut areas. Clear-cut patches are more easily identified in the color-infrared photograph where they appear blue, indicating low infrared reflection compared to the surrounding areas of purple and dark red (generally coniferous vegetation) and the bright red and pink (generally deciduous). Figure 137c shows how photographic enhancement can be used to provide additional resource information. This composite was produced from black-and-white images taken simultaneously with the multispectral camera (stations 2, 5, and 6) using an image ratioing technique.



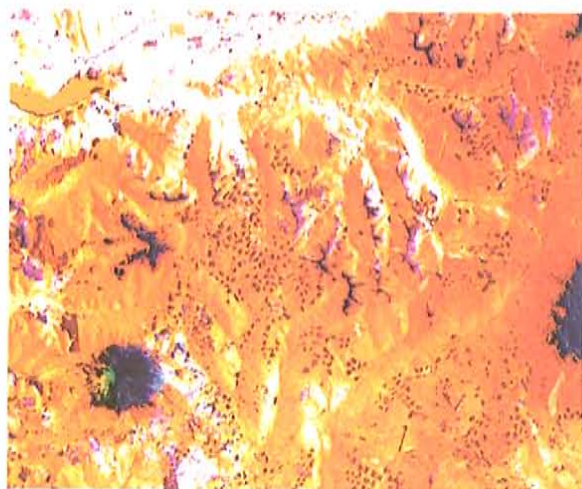
a.

SL2-16-002



b.

SL2-15-002



c. Enhancement (Courtesy Itek Optical Systems Division, Lexington, Mass.)

Image ratioing is a photographic processing technique in which the spectral intensity of ground objects is manipulated by multiplication of photographic transmission in several black-and-white spectral-band images is manipulated to enhance certain features. This technique permits suppression of unwanted detail, while enhancing the signatures of objects of interest. Clear-cut patches are not only enhanced, but subtle variations in the color of the patches can be used to assess their condition. For example, very dark patches in Figure 137c are almost barren of vegetation during a period of vigorous regrowth (June) and probably indicate recent clear cutting.

Figure 137a is a multispectral camera color photo of the Gifford Pinchot National Forest in Southern Washington where clear-cut patches appear mottled brown and green. On the corresponding color-infrared photo (Figure 137b), clear-cut patches appear blue, while coniferous vegetation appears dark red to purple and deciduous vegetation is bright red or pink. Figure 137c is a ratioed enhancement created from multispectral camera black-and-white photos taken simultaneously with the color and color-infrared images. Clear-cut patches appear purple while vegetation areas with higher infrared reflectance have been suppressed to gold and white. The almost circular white patch to the left in Figures 137a and b is snow-covered Mt. St. Helens. To the right is the snow-covered slope of Mt. Adams.

Forest Stress—The volume of timber lost annually because of forest disturbances like insect or disease infestations is much greater than that lost due to fire. Remote sensing can be a valuable aid for early detection and impact assessment of forest stress.

Researchers from the U. S. Department of Agriculture's Forest Service are using data from EREP, ERTS, aircraft, and ground instrumentation to develop techniques for detecting and evaluating forest stress in the Black Hills National Forest. The cause of the stress is a widespread attack of mountain pine beetle, which has been responsible for the loss of thousands of ponderosa pine trees. The initial beetle attack occurs in August, killing the trees by the following summer. The fading foliage of dying trees can be detected in both color and color-infrared photographs. Fading usually begins during late May or early June and is most visible during August of the year following the initial attack. Forest managers need accurate information on the location and extent of infestations to plan control and salvage operations and to estimate timber volume loss.

Figures 138 and 139 show how EREP and aircraft photographs have been used to locate and map mountain pine beetle infestations in the Black Hills National Forest. Investigations have demonstrated that infestation spots that appear reddish-orange contain 25 to 50 dead trees and can be identified in high-quality EREP earth terrain camera transparencies at

scales of 1:100,000. The infestation spots appear greenish-brown in the color-infrared aircraft photo (Figure 139). Infestation spots cannot be resolved in enlargements of ERTS imagery of the Black Hills.

The color composite in Figure 140a illustrates how high-resolution black-and-white photographs from the multispectral camera can be combined to enhance certain features. Areas with high infrared reflectance appear bright red, while those with low reflectance appear blue, as in color-infrared photographs. Hardwood forest and herbaceous vegetation appear bright red in Figure 140a. The surrounding coniferous forest is dark red or black.

The examples of EREP photographs in Figures 138 and 140 provide information on many other features of interest to forest managers and planners in addition to forest stress. Boundaries of the burned areas and effects of tornados are clearly visible in both the earth terrain camera images (Figure 138) and in the multispectral camera enhancement (Figure 139). The earth terrain camera image can also be used for drainage-basin delineation and mapping of other topographic features useful for watershed management. Road networks and recreational developments like ski areas and mountain homes can also be discriminated. This synoptic view of vast forest areas provides a valuable perspective for those responsible for comprehensive management and multiple-use planning of national forests.



a.

SL2-81-157



b.

SL2-81-157

Figure 138a is a 2X enlargement of part of an earth terrain camera photo of the Black Hills National

Forest. Figure 138b is a 10X enlargement (approximately 1:100,000 scale) of the same photo.

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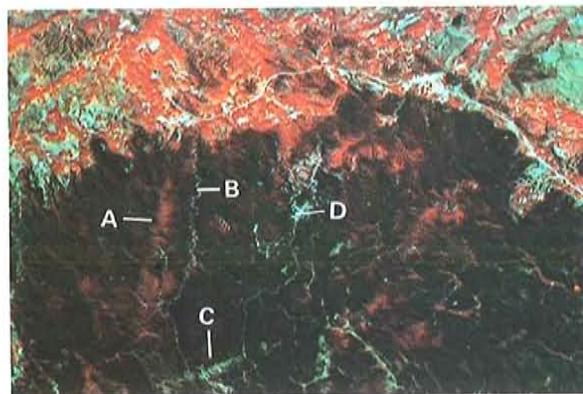


Legend

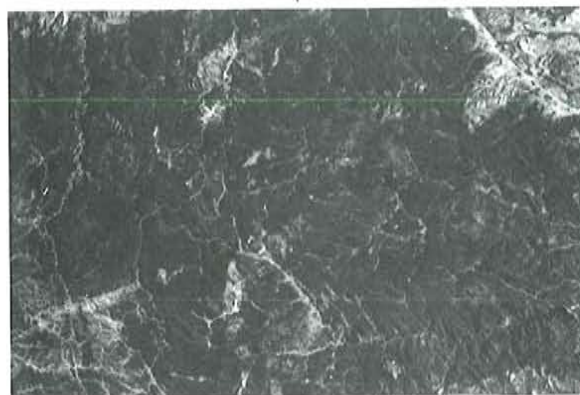
- A Mountain pine beetle infestation area
- B Spearfish Canyon
- C Tornado path (1962)
- D Deadwood burn 1959
- E Dry Lake burn
- F Gold mine tailings
- G Hardwood forest
- H Town of Lead, South Dakota
- I Homestake gold mine
- J New ski area
- K Recreation housing development
- L Gravel forest road

(Courtesy of Dr. F. P. Weber, U.S. Department of Agriculture, Forest Service, Remote Sensing Unit, Berkeley, California)

Figure 139 is a Forest Service aircraft color-infrared photo at a scale of 1:32,000. Two bark beetle infestations are delineated.



a.



b.

SL2-11-113



c.

1334-17124

Legend

- A Hardwood forest (aspen/birch)
- B Spearfish Canyon
- C Tornado path
- D Town of Lead, South Dakota

Figure 140a is a false-color composite produced from four EREP multispectral camera black-and-white photos (stations 1, 2, 5, and 6). Figure 140b is one of the black-and-white images (station 5, red band) used to create the composite. Figure 140c is an ERTS composite of the same area.

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SUMMARY

The EREP data base provides a valuable first step for multistage inventories of agricultural, forest, and range resources. This inventory information can be useful to planners, policy makers, and managers concerned with vegetative resources. The EREP data base can be used to update existing inventories for many resource applications and serve as a data base from which future changes can be measured.

Because EREP's coverage is restricted to three discrete periods, only two of which correspond to the growing season in the northern hemisphere, the usefulness of EREP data is limited for monitoring many dynamic vegetation parameters. However, the high spatial and spectral quality of EREP data permits meaningful correlation with repetitive data from ERTS or aircraft surveys.

In agriculture, EREP provides the resolution necessary to develop accurate classification and sampling techniques for crop inventories and yield predictions. These techniques will eventually permit global inventorying and monitoring of agricultural resources using spacecraft remote-sensing systems. In addition

to technique development, EREP data also serve as a baseline for monitoring future changes in agricultural land use, e.g., the rate at which agricultural land is converted to urban use, the rate at which native rangeland is irrigated and brought under cultivation, increased demands for irrigation water, etc.

Classification and inventorying of forest and range resources are two of the most useful applications of EREP remote-sensor data. For many applications, the requirement for repetitive coverage to update inventories is less important than it is in agriculture.

Initial stratification of forest and range resources using EREP imagery and spectral data permits forest inventories to be made faster and more economically than would be possible using conventional ground survey techniques. EREP data can provide updated inventories of the timber growing base and more accurate estimates of timber volume and yield—especially for areas that are remote or inaccessible.

EREP data can also provide the information required for multiple-use planning and management of forest and rangelands, where basic planning data are often lacking for the land, its ecology, and use.

VIII. ENVIRONMENTAL APPLICATIONS

Previous chapters have dealt with various aspects of human activities that affect our environment in one way or another. In this chapter, we will consider some of the specific applications of EREP data to environmental problems.

Because of its high spatial resolution, synoptic coverage, and broad wavelength range, the Earth Resources Experiment Package (EREP) is potentially a significant source of data about environmental problems—especially for establishing high-quality environmental baselines from which future changes can be measured with data from the Earth Resources Technology Satellite (ERTS), future satellites, aircraft, and field surveys. From EREP imagery, sources of water and air pollution can often be located and the spread of contaminants traced for long distances in a single photograph.

Many environmental problems are dynamic, and their temporal variations are of major importance. EREP imagery cannot be used to assess environmental quality that varies as a function of time of day, week, or month. However, the data have a limited value for delineation of seasonal patterns because some of the imagery taken in the summer of 1973 (June) was repeated in the fall (August and September) and again in the winter (November 1973 to February 1974).

A major advantage of EREP data is the improved spatial resolution compared to that of previous earth resources satellite sensor systems. For example, ERTS' nominal ground

resolution is only about 262 feet (80 meters). The value of improved resolution was pointed out by the Environmental Surveys Working Group of the Symposium on Significant Results from ERTS:

“The working group feels that improvement in spatial resolution would be more rewarding in the field of environmental quality than in most other disciplines covered by ERTS investigations. In relative terms, if the resolution were increased by one-half an order of magnitude (to 20 meters), we estimate that the environmental benefits would be increased by several orders of magnitude.”*

The high spatial resolution of EREP cameras—in the 20-meter range under favorable conditions—permits detection of small sources of air pollution and land quality characteristics. Although small, such features contribute significantly to the general environmental problems of a region.

Another advantage of EREP data is the broad spectral coverage of the cameras and electronic sensors, which allows a more comprehensive study of environmental problems than visible-range photography alone. For example, assuming they are on or near the surface, algae blooms strongly reflect photographic infrared wavelengths. They also increase the water temperature because they absorb the short visible wavelengths. On the other hand, water sediments reflect the short visible (blue

* L. S. Walter, “Environment Surveys,” *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol. III (Greenbelt, Maryland: NASA, Goddard Space Flight Center, 1973) p. 52.

and blue-green) wavelengths, while the water is highly absorbent in the photographic infrared wavelengths. Thus, with EREP's coverage of these wavelengths, one can better distinguish algae blooms from sediments because the blooms will appear bright in the photographic infrared and thermal-infrared wavelengths, while suspended sediments will appear bright in visible wavelengths and dark in the thermal and photographic infrared wavelengths. In a similar manner, knowing the spectral reflectance properties of features of interest, the user can employ EREP's broad simultaneous spectral coverage to differentiate these features.

EREP data should be used to complement data gathered from other sources (ground-based, aircraft, and satellite surveys) to create a more comprehensive and informative data base. As will be pointed out, there are certain EREP sensors and spectral bands that are particularly sensitive to specific types of environmental quality problems. The user must determine those most applicable by studying his information needs and how EREP data can best supplement his existing data base and experience.

WATER QUALITY

EREP data are a significant source of information concerning water quality. For example, water sediment plumes can be accurately mapped over a large area, and sources often located, as shown in Figure 141.

Specific water quality problems discussed in this chapter are sedimentation, biological and chemical pollution. The general relationships between water quality and EREP data are shown in Figure 142.

When water is clear, sunlight striking it both reflects and penetrates. The portion of sunlight that is reflected (A in Figure 142)



SL3-46-030

Figure 141 is a multispectral camera photograph of the Susquehanna River in Pennsylvania that shows well-defined suspended matter. Note how well the suspended matter can be located and mapped over a large area.*

* Unless otherwise noted, figures show only part of an EREP photograph—multispectral camera photos enlarged 4X and earth terrain camera photos 2X.

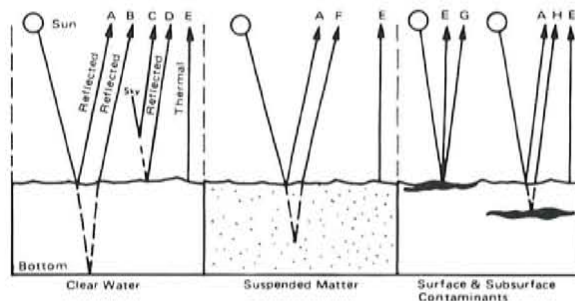


Figure 142 Interaction of Sunlight with Water

strongly depends on sun angle, angle of observation, and surface roughness. At low sun observation angles, water strongly reflects sunlight—a condition commonly called *glint*.

Maximum penetration or reflectance of clear water is in the blue and green wavelengths (0.4 to 0.6 micrometer). There is still substantial reflectance up to about 0.7 micrometer (red), but the water completely absorbs the near-infrared wavelengths (also called *photographic infrared*) greater than 0.75 micrometer. Hence, the sunlight penetrating the clear water (Figure 142) is predominantly the blue-green wavelengths. If the water is sufficiently calm and shallow [less than about 40 feet (12 meters)], the sunlight strikes the bottom and is reflected (B in Figure 142) to the sensors.*

In addition to the surface- and bottom-reflected sunlight, sky light illuminates the water surface and is reflected (D in Figure 142). Sky light or airlight, which is predominantly blue, also reaches the EREP sensors (C in Figure 142). Airlight causes a reduction in EREP data contrast in the blue wavelengths, resulting in decreased usefulness of this spectral range for water quality studies.

In addition to the reflected sunlight, water emits radiation (E in Figure 142) in the thermal infrared wavelengths. The intensity of this radiation indicates the temperature of the water within a few millimeters of the surface. The use of EREP thermal-infrared radiation sensors is restricted to 3 to 5 and 8 to 14 micrometers because the atmosphere absorbs all other thermal-infrared wavelengths.

The action of sunlight on water containing suspended matter is also shown in Figure 142. The term *suspended matter* is used in its broadest sense—any solid or liquid material in the water. Hence, algae, plankton, natural sediments, and man-made chemical contaminants are included. Backscatter or reflected

sunlight from the suspended matter is affected by the basic properties of clear water (Figure 143). The thermal-infrared energy (E in Figure 142) emitted by the suspended matter is usually not significantly different from that of the clear water because the thermal energy originates from the first few millimeters of water at the surface. Of course, if the suspended matter is very near the surface, the nature of the thermal energy is affected. Several investigations have shown that concentration of sediments can be correlated with the amount of sunlight reflected and backscattered from turbid water, i.e.; the greater the concentration of sediments, the greater the amount of reflected and backscattered sunlight.*†‡. In EREP imagery, this appears as lighter tones. A quantitative correlation between the concentration of solids and reflectance is shown in Figure 143.

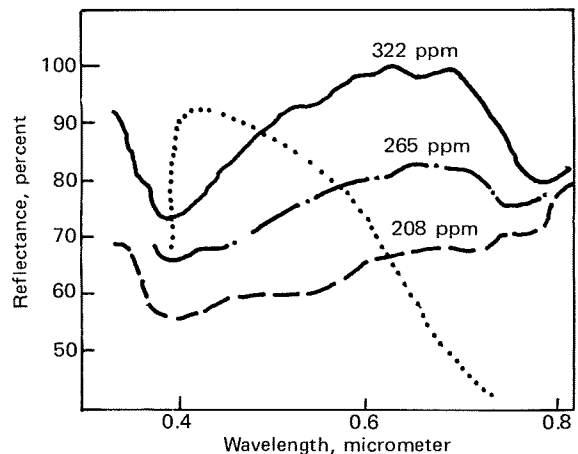


Figure 143 is an example of the effects of various concentrations of suspended solids on the volume reflectance of water. The total reflectance from a column of distilled water is shown for reference. Absolute reflectance values are not directly comparable.

* J. P. Scherz, "Remote Sensing Considerations for Water Quality Monitoring," *Proceedings of the 7th Symposium on Remote Sensing of Environment*, Vol II (Ann Arbor, Michigan: University of Michigan, 1971) p. 1071ff.

* J. P. Scherz, "Remote Sensing Considerations for Water Quality Monitoring," *Proceedings of the 7th Symposium on Remote Sensing of Environment*, Vol II (Ann Arbor, Michigan: University of Michigan, 1971) p. 1071ff.

† J. P. Scherz, M. Sydor, and J. F. Van Domelen, "Aircraft and Satellite Monitoring of Water Quality," Paper E-9, *Third ERTS Symposium Abstracts* (Greenbelt, Maryland: NASA, Goddard Space Flight Center, 1973).

‡ H. L. Yarger, et al, "Water Turbidity Detection Using ERTS-1 Imagery," *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol 1, Section A (Washington, D.C.: National Aeronautics and Space Administration, 1973).

Note how the maximum reflectance is shifted (compared to clear water) toward the green wavelengths as solids are added. This phenomenon has also been shown with ERTS investigations, in which it has been concluded that ERTS wavelength channels 0.5 to 0.6 and 0.6 to 0.7 micrometer are the most sensitive and useful for the study of suspended sediments.*†

Figures 144 and 145 are examples of the clar-

ity with which various concentrations of solids are shown in EREP photographs.

* H. L. Yarger, et al, "Water Turbidity Detection Using ERTS-1 Imagery," *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol 1, Section A (Washington, D.C.: National Aeronautics and Space Administration, 1973) p 651ff.

† W. J. van Liere, "Applications of Multispectral Imagery to Water Resources Development Planning in the Lower Mekong Basin (Khmer Republic, Laos, Thailand and Viet Nam)," *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol 1, Section A (Washington, D. C.: National Aeronautics and Space Administration, 1973) p 713ff.



SL4-92-300

Figure 144 is an earth terrain camera photograph (0.4 to 0.7 micrometer) of Mobile Bay, Alabama. The plumes show varying concentrations of sediments

that are apparent because of their varying degrees of sunlight reflectance. The source and diffusion (mixing properties) of the plumes are easily determined.



a. SL2-81-010

Figure 145a is an earth terrain camera photograph (0.4 to 0.7 micrometer) of Utah Lake, Utah, taken during the summer. The lightness of tone in the photograph seems to indicate a heavy concentration of suspended solids in the lake. Figure 145b is an



b. SL3-83-300

earth terrain camera photograph of the same area taken in the same wavelength band during the fall. The pattern of suspended solids is much different from that in the summer photograph.

The high-resolution enlargements in Figure 145 can be compared with multispectral camera color photos of the same area in Figure 146. Note the different characteristics of the various wavelength bands.

Ground-based data and previous knowledge of lake depth and water clarity should be used to aid in the separation of sediment effects from lake-bottom effects. In addition, ground-based data on sediment load can be used to relate EREP image density to the sediment load. By doing this, the levels of sediment load can be determined for the entire body of water. For ERTS data, it has been found that such a technique is applicable to sediment loads of up to 100 parts per million of total suspended solids.¹

It has been shown that knowledge of suspended materials in the estuaries of rivers leads to knowledge of the gradient of the suspended silt entering the sea and passages where fish can be caught. It has also been established that the density of sediment load in any particular zone of an estuary is directly related to the density of plankton growth.² The density of plankton is in turn related to the numbers and types of commercially valu-

able fish in an area. Satellite images are therefore potentially useful to coastal fisheries.

Oil slicks have been detected and studied using the ultraviolet-blue wavelengths (best for detecting slick edges and thin regions), visible (the green wavelengths shown to be best for detecting thick regions), near-infrared, and thermal regions.^{3, 4} The thermal emission is potentially very sensitive to oil slicks because of possible large differences in the temperature of the water relative to that of the oil.

¹ H. L. Yarger, et al, "Water Turbidity Detection Using ERTS-1 Imagery," *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol 1, Section A (Washington, D.C.: National Aeronautics and Space Administration, 1973) p 651ff.

² W. J. van Liere, "Applications of Multispectral Imagery to Water Resources Development Planning in the Lower Mekong Basin," *Symposium on Significant Results Obtained from Earth Resources Technology Satellite-1*, Vol 1, Section A (Washington, D. C.: National Aeronautics and Space Administration, 1973).

³ J. C. Munday et al, "Oil Slick Studies Using Photographic and Multispectral Scanner Data," *Proceedings of the 7th Symposium on Remote Sensing of Environment*, Vol II (Ann Arbor, Michigan: University of Michigan, 1971) p 1027ff.

⁴ J. C. Aukland et al, "Multi-sensor Oil Spill Detection," *Proceedings of the 7th Symposium on Remote Sensing of Environment*, Vol II (Ann Arbor, Michigan: University of Michigan, 1971) p 1045ff.



a. Station 6, 0.5 to 0.6 micrometer SL3-24-322



b. Station 5, 0.6 to 0.7 micrometer SL3-23-322



c. Station 1, 0.7 to 0.8 micrometer SL3-19-322



d. Station 2, 0.8 to 0.9 micrometer SL3-20-322



e. Station 4, 0.4 to 0.7 micrometer SL3-22-322



f. Station 3, 0.5 to 0.88 micrometer SL3-21-322

Figure 146 shows 4X enlargements of multispectral camera photos of Utah Lake, Utah.

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If opaque objects are more than a few inches below the surface, the reflected energy will be limited by the transmission property of water to the blue-green and green wavelengths. Hence, if algae are below the surface, they will not appear as "bright" objects in the near-infrared EREP images. The images will appear black, as shown in Figure 146e. However, surface growth of algae will result in a bright reddish appearance in color-infrared photos.

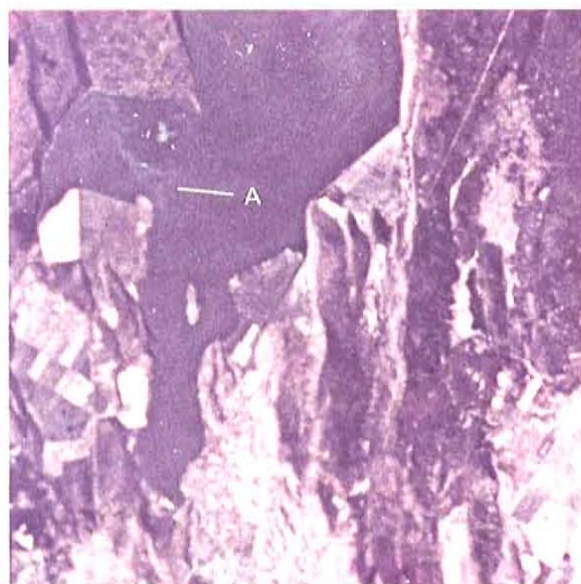
A striking example of this is shown in Figure 147. The algae bloom in Wocus Bay is just barely visible in Figure 147a because of its characteristic low reflectance in the visible region. It is very apparent in vivid orange-red in the color-infrared photo (Figure 147b) because of the high reflectance of algae in the near-infrared wavelength band.

Detection and mapping of algae blooms in rivers and along coastlines may reveal inadequately treated sewage that nurtured their

growth. Actually, an investigator must use his knowledge of his specific problem plus ground-based data to accurately and effectively use EREP data for this purpose. Chemical pollutants on or under the surface can be detected with EREP data if they have a color contrast with other suspended matter and water.

Specific quantitative assessment of any given water quality situation will require *a priori* ground-based data and user's knowledge to correctly interpret the EREP data. However, once the correct correlation is made between EREP data and water quality phenomena, in one area, evaluation can be extended (under suitable conditions) to a much larger area than is practical with only ground-based information.

Chapter IV (page 87 ff) also discusses the application of EREP data to water quality investigations.



a.

SL3-34-340



b.

SL3-33-340

Figure 147a is a 10X enlargement of a multispectral camera color photo of an algae bloom (A) in upper Klamath Lake, Oregon. Figure 147b is a color-infrared photo of the same area. Note how the bloom is largely limited to a bay area (Wocus Bay). Compare

these photos with Figure 86 (page 90) of Cobequid Bay in which a pollutant appears red in the color photo and gray-green in the color-infrared, leading to the conclusion that no algae are present.

AIR QUALITY

EREP data are also a potentially significant source of information concerning air quality problems because of the synoptic view, high spatial resolution, and multispectral coverage. Figure 148 shows how smoke plumes can be accurately mapped over a large area, and their sources located. There is a degree of uniformity of all the smoke plumes, in terms of the wind direction, density, and width. Figure 149 shows an air pollution cloud extending from the Columbus, Ohio, area nearly 87

nautical miles (161 kilometers) to the south. Information like this is invaluable to air quality monitoring and study programs. Comparable ground-based data would require an extensive and expensive sensor network. In addition, computer models of the diffusion of air pollution can be tested with the synoptic data from EREP. The models can then be modified, if required, and used with a much greater degree of confidence. However, as previously mentioned, EREP data do not provide the opportunity to study the temporal characteristics of smoke plumes and air pollution in general.



SL3-34-090

Figure 148 is a multispectral camera photo of smoke plumes in Brazil. Note how the synoptic view and

spatial resolution allow quick determination of each plume's source and diffusion characteristics.



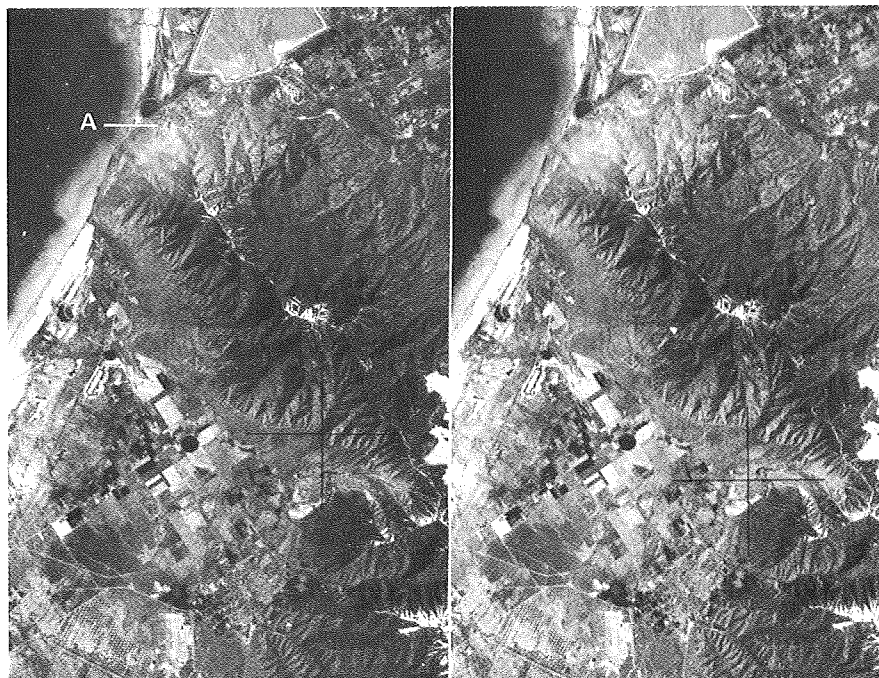
SL3-28-018

Figure 149 is a multispectral camera photo of an extensive air-pollution cloud north of Columbus, Ohio. Note how easily its source and diffusion characteristics can be determined. This ability can be extremely useful for verifying the accuracy of computer models of diffusion and for extending the

usefulness of ground monitoring networks. Stereo coverage is particularly useful in this work. (The conspicuous oval track in this photo is a new transportation test facility near East Liberty, which was not yet shown on up-to-date topographic or road maps.)

Figure 150, from near Salt Lake City, Utah, shows an industrial smoke plume. There are marked differences in the plume's density and diffusion characteristics between June

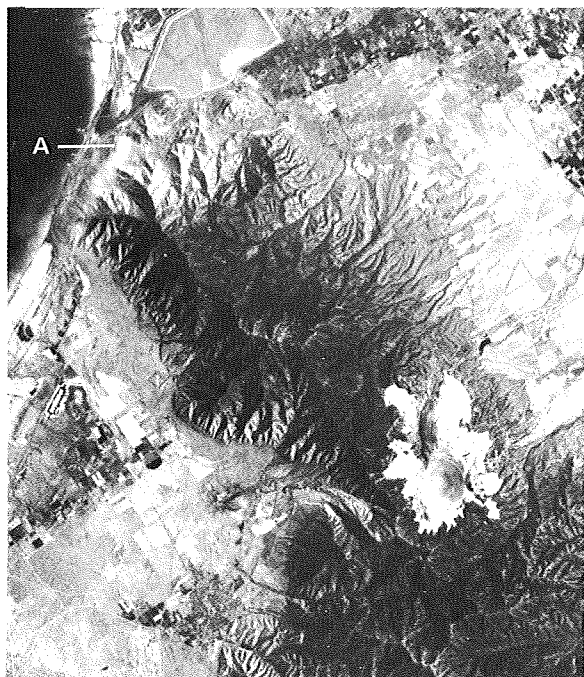
and September. Note that the plume is more easily detected in the stereogram (Figure 150a).



a. June

SL2-12-006

SL2-12-007



b. September

SL3-24-322

Figure 150a is an 8X enlargement stereogram of a multispectral camera photo (0.5 to 0.6 micrometer) of a smoke plume originating from a smelter (A) near Salt Lake City, Utah. The photo was taken during the summer. Figure 150b shows the same plume as it appears in the fall.

Figure 151 is an illustration of the interaction of sunlight with a smoke plume or other air pollution. Sunlight striking the top of the pollutant will be backscattered and reflected upward (A) and the remaining sunlight will be transmitted to the ground, reflected from the ground, backscattered and reflected from the bottom of the pollutant, transmitted through it, and eventually will reach the sensors (B).

In general, air pollution backscatters and reflects short-wavelength (blue) sunlight much more than the longer (red, near-infrared) wavelengths. Hence, EREP images of air pollution will appear "brighter" at shorter wavelengths. Air pollution is relatively transparent to the longer wavelengths. The interaction of short and long wavelengths of sunlight with a smoke plume can be compared by studying the appearance of the plume in the various wavelengths in Figure 152. As shown in the images in color (0.4 to 0.7 micrometer, Figure 152a) and color infrared (0.5 to 0.88 micrometer, Figure 152b), the smoke plume is quite apparent. Note the difference in the diffusion characteristics of the plume in the two different (time change) sets of imagery. Similarly, the shorter-wavelength multispectral images (0.5 to 0.6 micrometer, Figure 152c, and 0.6 to 0.7 micrometer, Figure 152d) show the plume as reflecting (backscattering) the shorter wavelengths. However, at the longer wavelengths (0.7 to 0.8 micrometer, Figure 152e), the plume is very transparent—even ground features show through it.

The degree to which air pollution backscatters the short and long wavelengths depends on the density and thickness of the pollution. If a plume is very dense and thick, it will appear "bright" in all wavelengths. However, as opposed to the previously discussed good correlation between concentration of sediments in water and reflectance of sunlight (image brightness), correlation between air pollution density and image brightness (den-

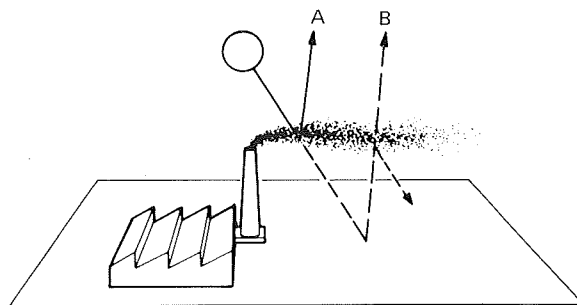


Figure 151 Interaction of Sunlight with Air Pollution

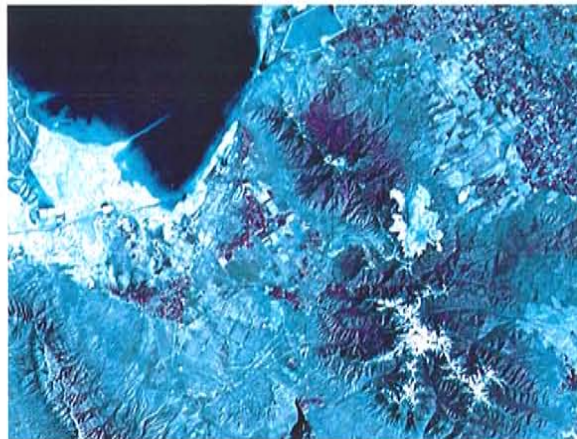
sity) is difficult to obtain. This is because of the influence of the sunlight reflected from the ground, (B in Figure 151). Experience has shown that the varying degrees of image brightness due to air pollution density are overwhelmed by the varying degrees of image brightness caused by varying ground-feature reflectivities. Therefore, one cannot quantitatively relate image brightness to air pollution concentration or density. However, in specific cases in which there is a fairly uniform ground reflectivity over a large area, it may be possible to derive such a correlation.

If they have a dominant spectral reflectance ("color") different from the background of ground cover, chemical air pollutants can be detected and mapped by using EREP data. However, as previously mentioned, it is generally thought that the variations in ground-cover reflectance predominate the spectral characteristics of gaseous air pollutants. As pointed out, the user should apply his knowledge of a given specific gaseous air pollutant to determine the feasibility of effectively applying EREP data to his problem.

By far the most significant contribution of the EREP data is the ability to map the exact nature of air pollution diffusion over a large area. This is very difficult using other means like computer models and ground stations.



a. Station 4, 0.4 to 0.7 micrometer SL2-10-007



b. Station 3, 0.5 to 0.88 micrometer SL2-09-007



c. Station 6, 0.5 to 0.6 micrometer SL2-12-007



d. Station 5, 0.6 to 0.7 micrometer SL2-11-007



e. Station 1, 0.7 to 0.8 micrometer SL2-07-007

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Figure 152 comprises enlargements of multispectral camera photos of the area south of Great Salt Lake, Utah.

LAND QUALITY

With respect to applications to land quality problems, the single most important characteristic of the EREP data is its high spatial resolution—because a great many land quality problems are small (city waste dumps, junk yards, etc). Multispectral coverage is an important complement to high spatial resolution, and the synoptic view is of least importance. It is difficult to single out any particular wavelength region that would be more sensitive than another.

An example of how wavelength-sensitive a land quality feature can be is an open-pit mining operation, shown in Figure 152. The drastic change in contrast between the 0.6- to 0.7-micrometer and 0.7- to 0.8-micrometer images is striking. In this case, it is due to a

characteristic high reflectance (in the red) of the copper ore, compared to a low reflectance of the surrounding terrain. Other examples of strip mining are discussed in Chapter III (page 82).

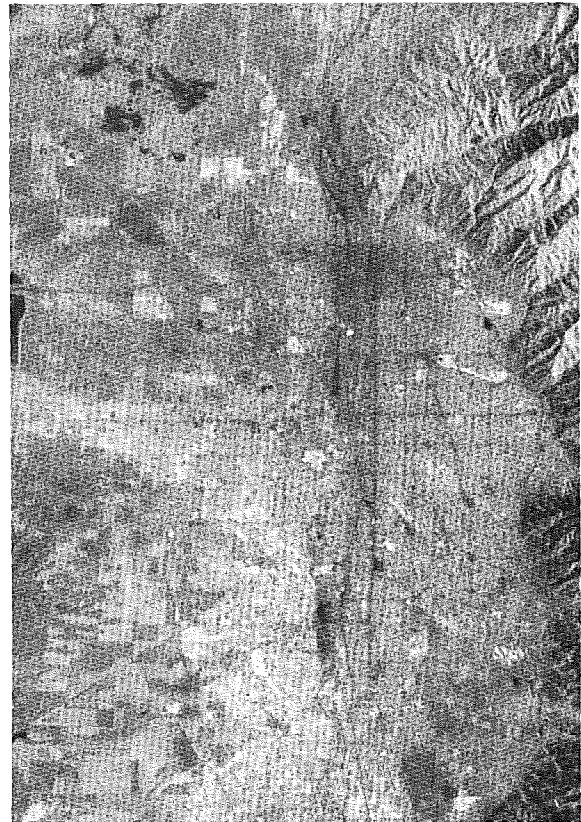
Examples of how the high spatial resolution and wavelength coverage of EREP data can be applied to land quality problems are shown in Figure 153. The figure represents the 0.6- to 0.7-, 0.8- to 0.9-micrometer regions, and the color infrared multispectral capabilities of the EREP data. Variations in the detectability of some land quality features, like highways and industrial areas, due to spectral differences can be seen. Note the area surrounding the previously mentioned smelter plant (near Great Salt Lake). The dumps and tailing piles associated with the smelter can be readily detected:



a.

SL3-23-322

Figure 153a is an 8X enlargement of a multispectral camera photo (0.6 to 0.7 micrometer) of the Salt Lake City, Utah, area. Various land quality features,



b.

SL3-20-322

such as city (A), suburban (B), and rural (C) areas are shown. Figure 153b is an 8X enlargement of the 0.8- to 0.9-micrometer photo of the same area.

The user should determine the most applicable images and spectral bands from his knowledge of the specific problems and experiments with the various images. An example of choice of imagery is shown in Figure 154, which illustrates the high haze-penetration capability of color-infrared compared to that of regular color film.



a.

SL3-27-027

Figure 154 shows the superior haze penetration of color-infrared (Figure 154a) compared to regular color film (Figure 154b). The photos are multispec-

As discussed in Chapter III (page 51ff), EREP can provide a valuable data base from which to measure changes in land quality that will result from future developments and exploitation. Repetitive coverage by ERTS and future surveys from Space Shuttle can be compared to the EREP photos to provide a clear demonstration of land-quality deterioration or improvement.



b.

SL3-28-027

tral camera images of Kerr Reservoir on the Roanoke River in Virginia.

SUMMARY

EREP data can be applied to the study of water, air, and land quality problems. The data are useful for:

- Detection of pollution;
- Determination of its source and spatial distribution;
- Establishment of a baseline from which to

measure changes in the quality of the environment;

- Directing detailed analyses with aircraft surveys and ground measurements.

The actual usefulness of EREP data to the study of environmental problems is related to the different spatial and temporal scales of air, water, and land quality changes.

IX. OBTAINING EREP DATA

In accordance with the National Aeronautics and Space Act of 1958 and the Freedom of Information Act of 1967, NASA provides earth resources data to three federal data outlets. These provide the data to the general public at a nominal charge.

In 1972, the Secretary of Agriculture designated the Aerial Photography Field Office to receive and store all satellite imagery for the Department of Agriculture and the general public. This function is performed by:

Western Aerial Photography Laboratory
Administrative Services Division
ASCS/USDA
2505 Parley's Way
Salt Lake City, Utah 84109
Telephone: 1-801-524-5856

Black-and-white and color reproductions of satellite imagery can be ordered from the laboratory.

The Department of the Interior established the Earth Resources Observation Systems (EROS) Data Center in Sioux Falls, South Dakota, in 1971. The Data Center is operated for the Department's Earth Resources Observation Systems Program by the Topographic Division of the Geological Survey to provide the general public, U. S. government agencies, and foreign governments with access to satellite imagery, NASA aircraft remote-sensor data, and U. S. Geological Survey photographs. The Data Center has facilities for data

storage, retrieval, reproduction, and dissemination, as well as user assistance and training. For service from the EROS Data Center, contact:

U. S. Department of the Interior
EROS Data Center
User Services
Sioux Falls, South Dakota 57198
Telephone: 1-605-594-6511

The National Oceanic and Atmospheric Agency (NOAA), through the National Environmental Satellite Service, has established a data center in Asheville, North Carolina. For service from this center, contact*:

Director
National Climatic Center
Federal Building
Asheville, North Carolina 28801
Telephone: 1-704-254-0961, ext 620

To obtain data or information, customers can contact the Federal Data Centers by letter, telephone, or personal visit. It is hoped that the indexes in Chapter X will enable the reader to determine exactly what Skylab EREP photographs he wants. He should then provide the following information:

- Skylab mission number;
- Roll number;
- Frame number;

* NOAA personnel should contact the NOAA Earth Resources Data Center, National Environmental Satellite Service, S1162, Room 1069, Federal Office Building 4, Washington, DC 20233; Telephone: 1-301-763-7538.

- Image size;
- Print or transparency;
- Color or black and white;
- Quantity of each.

If specific frames cannot be determined from the index, the system at the data centers can provide the following information:

- What frames include a specific geographic point described by latitude and longitude;
- What frames include an area with a given radius in miles around a given geographic point;
- What frames include an area defined by four latitude-longitude coordinates;
- What frames cover all or part of an area consisting of a polygon of up to eight geographic points;
- What frames include any part of a line between two geographic points.

In response to inquiries like these, the data center will return a list of data by sensor and acquisition system (satellite, such as ERTS or Skylab, or aircraft). If the reader desires data from a specific acquisition system, he should so state in order to facilitate the search and decrease handling problems. Table 2 (page 8)

lists the formats available for multispectral camera photos. Table 4 (page 11) lists formats available for earth terrain camera photos.

Due to processing limitations, data from the electronic sensors have been processed only to meet the needs of principal investigators in the EREP program. Therefore, not all data acquired will be available in a standard processed form. Information on the availability of processed electronic data can be obtained from the data centers.

Data centers will assist the customer to identify the data best suited to his needs. Data can be viewed on 16-millimeter microfilm at the data centers before purchase. Browse facilities, sponsored by various government departments and agencies, are situated throughout the United States. The location of the nearest browse facility can be obtained from any of the data centers previously identified.

All orders for data must be accompanied by prepayment (checks, money orders, drafts) made payable to the appropriate agency and/or department.

X. SKYLAB EREP PHOTOGRAPHIC DATA INDEX

This chapter comprises indexes of photographic data acquired by the multispectral photographic camera and the earth terrain camera. Users who need electronic data should consult one of the data centers listed in Chapter IX to determine what data are processed and available.

The photographs are indexed by longitude and latitude of their center points for each of the three Skylab missions (SL-2, page 185ff; SL-3, page 213ff; SL-4, page 279ff). Additional information includes date and time taken (Greenwich Mean Time), roll and frame number of each photo, a brief description of the scene, and approximate cloud and snow cover (for SL-4) in percent. The indexes are arranged in increments of one degree of

longitude, starting at 180°W and progressing eastward. Within each longitude interval, the entries are arranged in increments of one degree of latitude, progressing from south to north.

The indexes do not indicate which camera took the photographs. This information can be obtained from the roll number by consulting Tables 13 and 14, or by simply remembering that rolls 81 through 94 were taken by the earth terrain camera. Photos taken by the multispectral photographic camera are indexed by station 4 (color, 0.4 to 0.7 micrometer) in most cases, as shown in Table 15. Because there are some differences in the three indexes, we will discuss each of them separately.

Table 13. Multispectral Camera Station Characteristics and Film Rolls Used

Sta	Filter	Filter Bandpass, micrometer	Film Type*	Estimated Ground Resolution††, feet (meters)	Mission & Roll No.		
					SL-2†	SL-3	SL-4
1	CC	0.7 – 0.8	EK 2424 (B&W infrared)	240 – 260 (73 – 79)	01‡,07,13	19,25,31,37,43	49§,55,61,67,73,A1,1B
2	DD	0.8 – 0.9	EK 2424 (B&W infrared)	240 – 260 (73 – 79)	02,08,14	20,26,32,38,44	50§,56,62,68,74,A2,2B
3	EE	0.5 – 0.88	EK 2443 (color infrared)	240 – 260 (73 – 79)	03,09,15	21,27,33,39,45	51§,57,63,69,75,A3,3B
4	FF	0.4 – 0.7	SO-356 (hi-resolution color)	130 – 150 (40 – 46)	04,10,16	22,28,34,40,46	52§,58,64,70,76,A4,4B
5	BB	0.6 – 0.7	SO-022 (PANATOMIC-X B&W)	100 – 125 (30 – 38)	05,11,17	23,29,35,41,47	53§,59,65,71,77,A5,5B
6	AA	0.5 – 0.6	SO-022 (PANATOMIC-X B&W)	130 – 150 (40 – 46)	06,12,18	24,30,36,42,48	54§,60,66,72,78,A6,6B

* Eastman Kodak Company

† SL-1 was the launch of Skylab without crew.

†† At low contrast

‡ Note that all roll numbers are 2-digit numbers. Single-digit numbers were used in other cameras.

§ Without filter

Table 14. Earth Terrain Camera Film Characteristics and Rolls Used

Film Type*	Wratten Filter	Filter Bandpass, micrometer	Estimated Ground Resolution††, feet (meters)	Mission & Roll No.		
				SL-2	SL-3	SL-4
SO-242 (hi-resolution color)	none	0.4 – 0.7	70 (21)	81	83,84, 86,88	90,91, 92,94
EK 3414 (hi-definition B&W)	12†	0.5 – 0.7	55 (17)	82	85	89
EK 3443 (SL-2 & SL-3) (infrared color)	12	0.5 – 0.88	100 (30)	—	87	—
SO-131 (SL-4) (hi-resolution infrared color)	12	0.5 – 0.88	75 (23)	—	—	93

* Eastman Kodak Company

† "Minus blue" filter

†† at low contrast

Table 15. Relationship between Roll Number for Station 4 and Corresponding Roll Numbers for other Multispectral Camera Stations

Mission	Index Entry (Sta 4)†	Station					
		1	2	3	4	5	6
SL2	04	01	02	03	04	05	06
	10	07	08	09	10	11	12
	16	13	14	15	16	17	18
SL3	22	19	20	21	22	23	24
	28	25	26	27	28	29	30
	34	31	32	33	34	35	36
	40	37	38	39	40	41	42
	46	43	44	45	46	47	48
SL4	52	49	50	51	52	53	54
	58	55	56	57	58	59	60
	64	61	62	63	64	65	66
	70	67	68	69	70	71	72
	76	73	74	75	76	77	78
	A4	A1	A2	A3	A4	A5	A6
	4B	1B	2B	3B	4B	5B	6B

†except as noted in the text for Skylab 3 and 4

SKYLAB 2 PHOTOGRAPHIC INDEX

The format of this index is shown in Table 16. During the frame numbering process, the color and color-infrared films (stations 4 and 3, respectively) of the multispectral photographic camera received a different frame number than the black-and-white frames (stations 1, 2, 5, and 6) of the same scene.

Therefore, the Skylab 2 index contains two columns of frame numbers. The first (S190 A&B, ROLL-FRAME), gives the roll numbers for the color film (station 4) and the frame numbers for the color and color-infrared films (stations 4 and 3). The next column (S190A B&W, -FRAME), shows the corresponding frame number for the same scene taken by the black-and-white stations (1, 2, 5, and 6) of the multispectral photographic camera.

Table 16. Sample Skylab 2 EREP Photographic Index

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A&B ROLL-FRAME	S190A B&W -FRAME	LOCATION AND COMMENTS
113°34.0W	42°50.5N	11/ 6/73	15°14'46	16-008	-008	IDAHO, CLOUDS C90
113°55.8W	47°37.4N	9/ 6/73	15°03'34	10-105	-097	MONTANA UNDER CLOUDS C95
113°13.9W	47°27.7N	9/ 6/73	15°03'42	10-106	-098	MONTANA UNDER CLOUDS C95
113°15.9W	47°27.3N	9/ 6/73	15°03'41	81-137	-	MONTANA C85
113°46.5W	47°34.7N	9/ 6/73	15°03'36	81-136	-	MONTANA C90
113°10.9W	48°27.3N	10/ 6/73	14°20'18	81-282	-	BLACKFEET RESERVATION, TWO MEDICINE RIVER C60
113°42.9W	48°33.3N	10/ 6/73	14°20'12	81-281	-	GLACIER NATIONAL PARK C60
113°50.5W	48°35.2N	10/ 6/73	14°20'11	10-217	-201	KALISPELL, FLATHEAD LAKE, HUNGRY HORSE LAKE C50
113°09.0W	48°27.6N	10/ 6/73	14°20'18	10-218	-202	GLACIER NATIONAL PARK, FLATHEAD RANGE, CUT RANK C30
112°03.0W	29°57.9N	2/ 6/73	20°09'45	04-141	-125	SEA OF CORTEZ, PUNTA BOLA, RIO SAN IGNACIO
112°27.1W	30°18.5N	2/ 6/73	20°09'37	04-140	-124	SEA OF CORTEZ, RIO CONCEPCION, UNIQUE SEA STATE
112°51.8W	30°39.4N	2/ 6/73	20°09'29	04-139	-123	SEA OF CORTEZ, RIO CONCEPCION, UNIQUE SEA STATE
112°20.5W	33°59.2N	3/ 6/73	19°25'41	04-199	-175	PHOENIX, GILA RIVER, PRESCOTT, VERDE RIVER
112°46.2W	34°16.6N	3/ 6/73	19°25'33	04-198	-174	GILA RIVER, PRESCOTT, VERDE RIVER
112°42.9W	37°26.7N	30/ 5/73	20°40'59	04-016	-016	BRYCE CANYON N.P., CEDAR CITY
112°13.9W	37°08.5N	30/ 5/73	20°41'07	04-017	-017	LAKE POWELL, KAIBAB PLATEAU, ZION N.P.
112°18.5W	37°11.0N	14/ 6/73	14°43'04	81-380	-	UTAH C80
112°49.2W	37°30.9N	14/ 6/73	14°42'56	04-274	-242	KAIBAB PLATEAU C80
112°19.9W	37°12.5N	14/ 6/73	14°43'04	04-275	-243	KAIBAB PLATEAU C80
112°12.3W	39°53.3N	5/ 6/73	17°58'07	81-010	-	UTAH LAKE, SPANISH FOR, NEPHI
112°05.7W	39°49.2N	5/ 6/73	17°58'09	10-008	-008	UTAH LAKE, WASATCH MTS.
112°22.2W	39°19.9N	5/ 6/73	17°58'17	10-009	-009	UTAH LAKE, WASATCH MTS.
112°38.0W	40°06.7N	5/ 6/73	17°58'01	10-007	-007	UTAH LAKE, GREAT SALT LAKE, GREAT SALT DESERT
112°37.3W	40°05.7N	5/ 6/73	17°58'01	81-009	-	GREAT SALT DESERT, DESERET PEAK, UTAH LAKE

Legend

S190 Multispectral Photographic Facility
 S190A Multispectral Photographic Camera
 S190B Earth Terrain Camera
 C Cloud cover in percent
 DD Day in date (Greenwich Mean Time), degree of latitude
 DDD Degree
 HH Hour (Greenwich Mean Time)

MM Month in date, minute in time (Greenwich Mean Time)
 MM.M Minute & tenth of minute of longitude and latitude
 SS Second in time (Greenwich Mean Time)
 YY Year
 , Symbol used as a divider in longitude, latitude, and time

The roll numbers for a complete set of six multispectral camera photos of a given scene can be determined from Table 15, using the roll number shown for station 4 in the index. For example, the second entry in Table 16 shows that the Montana scene at 113°55.8'W, 47°37.4'N is frame number 105 on multispectral camera roll 10 (color) and frame number 97 on the black-and-white films. Using Table 15, one finds that the complete set of six images of this scene consists of:

Roll 7, frame 97 (station 1, black-and-white infrared, 0.7 to 0.8 micrometer);
 Roll 8, frame 97 (station 2, black-and-white infrared, 0.8 to 0.9 micrometer);
 Roll 9, frame 105 (station 3, color infrared, 0.5 to 0.88 micrometer);
 Roll 10, frame 105 (station 4, color, 0.4 to 0.7 micrometer);
 Roll 11, frame 97 (station 5, black and white, 0.6 to 0.7 micrometer);
 Roll 12, frame 97 (station 6, black and white, 0.5 to 0.6 micrometer).

SKYLAB 3 PHOTOGRAPHIC INDEX

The format of this index is shown in Table 17. For Skylab 3, all stations of the multispectral camera have the same frame number for a given scene. Therefore, there is only one column for roll number for station 4 (color) and the frame number for all stations. Table 15 shows the roll numbers for a complete set of six multispectral camera photos of a given scene, using the roll number shown for station 4 in the index. However, some camera stations ran out of film before others (rolls 19 through 24). Therefore, not all scenes are available in a complete set of six frames, one from each station. Because station 4 (color) ran out of film (at frame 386), the index entry changes to station 1 (roll 19) for the remaining three frames on that roll. This change occurs at frame 387 of roll 19. Incomplete sets are indicated in the index by an asterisk (*) preceding the roll number.

When an asterisk is encountered, consult Table 18 to determine which roll (camera station) is missing for that particular scene. For example, the second entry in Table 17 shows that the scene of Columbus, Texas, and the Colorado River at 96°40.2'W, 29°49.7'N is frame number 349 on roll 22 (color). However, Table 18 shows that station 3 (color infrared) contained only 340 frames. Therefore, the only multispectral camera photos of this scene that are available are:

Roll 19, frame 349 (station 1, black-and-white infrared, 0.7 to 0.8 micrometer);
Roll 20, frame 349 (station 2, black-and-white infrared, 0.8 to 0.9 micrometer);
Roll 22, frame 349 (station 4, color, 0.4 to 0.7 micrometer);
Roll 23, frame 349 (station 5, black and white, 0.6 to 0.7 micrometer);
Roll 24, frame 349 (station 6, black and white, 0.5 to 0.6 micrometer).

Table 17. Sample Skylab 3 EREP Photographic Index

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+R ROLL-FRAME	LOCATION AND COMMENTS
96°12.5W	29°13.1N	3/ 8/73	18°06°36	22-018	TEXAS, MATAGORDA BAY, ALVIN, WAHRTON, RAY CITY, C-60
96°40.2W	29°49.7N	8/ 8/73	16°06°00	* 22-349	TEXAS, COLUMBUS, COLORADO R., C-70
96°09.9W	29°23.1N	8/ 8/73	16°06°11	* 22-350	TEXAS, HOUSTON (WEST SIDE), BRAZOS R., ALVIN, C-60
96°35.9W	29°48.0N	15/ 9/73	16°30°39	40-290	TEXAS, N.W. HOUSTON, BRAZOS RIV., COLLEGE STATION, COLORADO RIV. C-30
96°35.6W	29°46.5N	8/ 8/73	16°06°02	83-316	TEXAS, BRAZOS R., COLORADO R., COLUMBUS, LA GRANGE, C-60
96°16.2W	29°29.6N	8/ 8/73	16°06°08	83-317	TEXAS, BRAZOS R., ROSENBERG, COLUMBUS, EAGLE LAKE, C-40
96°56.0W	29°56.9N	10/ 9/73	18°32°03	85-322	TEXAS, C-98
96°04.6W	30°39.6N	10/ 9/73	18°32°20	40-029	TEXAS, COLLEGE STATION, CROCKETT C-80
96°05.6W	30°14.1N	15/ 9/73	16°30°49	40-291	TEXAS, N.W. HOUSTON, LAKE CONROF, BRAZOS RIV., COLLEGE STATION
96°54.7W	30°03.7N	8/ 8/73	16°05°55	83-315	TEXAS, SCHMIDT RES., BASTROP, FLGIN, COLORADO R., C-50
96°35.6W	30°14.2N	10/ 9/73	18°32°10	85-323	TEXAS, C-95
96°15.5W	30°31.4N	10/ 9/73	18°32°17	85-324	TEXAS, C-85
96°00.0W	30°45.0N	10/ 9/73	18°32°23	85-325	TEXAS, INTERSTATE 45 NEAR MADISONVILLE, C-80
96°20.4W	30°02.2N	15/ 9/73	16°30°44	87-037	TEXAS, BRYAN, COLLEGE STATION, LAKE SCHMIDT, BRAZOS R., C-10

Legend

S190 Multispectral Photographic Facility
S190A Multispectral Photographic Camera
S190B Earth Terrain Camera
C Cloud cover in percent
DD Day in date (Greenwich Mean Time), degree of latitude
DDD Degree
HH Hour (Greenwich Mean Time)

MM Month in date, minute in time (Greenwich Mean Time)
MM.M Minute & tenth of minute of longitude and latitude
SS Second in time (Greenwich Mean Time)
YY Year
' Symbol used as a divider in longitude, latitude, and time
* Incomplete set of multispectral camera frames, see text

Table 18. Skylab 3 Multispectral Camera Frame Counts for Incomplete Sets

Index Entry (Sta 4)†	Camera Station											
	1		2		3		4		5		6	
	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame
22	19	389	20	369	21	340	22	386	23	379	24	377

†Station 1 (roll 19) after frame 386

SKYLAB 4 PHOTOGRAPHIC INDEX

The format of this index is shown in Table 19. It is similar to the Skylab 3 index except that there are more multispectral camera stations that have incomplete sets of frames of a given scene. Also, one set of rolls was exposed without filters, as shown in Table 13. Incomplete sets are indicated in the index by an asterisk (*) preceding the roll number. When an asterisk is encountered, consult Table 20 to determine which roll (camera station) is missing for that particular scene. For example, the second entry in Table 19 shows that the scene of Illinois and Missouri

at 91°30.1'W, 39°31.9'N is frame number 055 on roll 52. However, Table 20 shows that there are no frames from that roll available from stations 2 and 6. Therefore, the only multispectral camera photos of this scene that are available are:

Roll 49, frame 055 (station 1, film exposed without filter);

Roll 51, frame 055 (station 3, film exposed without filter);

Roll 52, frame 055 (station 4, film exposed without filter);

Roll 53, frame 055 (station 5, film exposed without filter).

Table 19. Sample Skylab 4 EREP Photographic Index

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
91°17.9W	38°54.0N	12/ 1/74	16°52'53	92-115	MO., ILL., MISSISSIPPI R., MISSOURI R., ILLINOIS R., S-100
91°30.1W	39°31.9N	30/11/73	16°35'20	* 52-055	ILL., MO., QUINCY, MISSISSIPPI R., HANNIBAL, C-60
91°35.7W	39°34.0N	30/11/73	16°35'19	90-022	MO-ILL., HANNIBAL, QUINCY, MONROE CITY, MISSISSIPPI R. C-60
91°12.0W	39°20.5N	30/11/73	16°35'25	90-023	ILL., MISSISSIPPI R., MONROE CITY, MISSISSIPPI R. C-60
91°07.7W	41°46.0N	24/ 1/74	17°58'22	70-360	IA., ILL., MISSISSIPPI R., DAVENPORT, IOWA CITY, S-90
91°35.7W	41°58.4N	24/ 1/74	17°58'15	93-218	IOWA, IOWA CITY, CEDAR RAPIDS, CEDAR R., IOWA R., S-100
91°09.3W	41°46.0N	24/ 1/74	17°58'21	93-219	IOWA, ILL., MISSISSIPPI R., DAVENPORT, ROCK ISLAND, MUSCATINE, S-100
91°49.5W	42°05.7N	24/ 1/74	17°58'12	70-359	IA., IOWA R., IOWA CITY, CEDAR RAPIDS, S-100
91°59.8W	42°09.4N	24/ 1/74	17°58'09	93-217	IOWA, WATERLOO, CEDAR RAPIDS, CEDAR R., VINTON, S-100
91°19.9W	43°54.1N	20/ 1/74	19°13'59	92-249	MINN., WISC., C-100
91°41.0W	44°02.5N	25/ 1/74	17°14'40	▲ 76-005	MINN., WISC., IA., MISSISSIPPI R., LA CROSSE, BLACK R., S-90
91°47.9W	44°05.1N	20/ 1/74	19°13'53	92-248	MINN., C-100
90°10.0W	12°59.1N	1/ 2/74	17°09'08	48-115	EL SALVADOR, ACAJUTLA, PUNTA REMEDIOS, C-30
90°07.7W	12°43.7N	27/ 1/74	19°08'28	76-256	PACIFIC O. OFF CENTRAL AMERICA, C-60
90°04.1W	12°56.3N	4/12/73	17°01'34	90-349	PACIFIC OCEAN OFF CENTRAL AMERICA C-12
90°03.1W	12°49.6N	1/ 2/74	17°09'11	94-306	PACIFIC O. OFF CENTRAL AMERICA, C-15
90°52.5W	13°51.5N	1/ 2/74	17°08'50	48-112	GUATEMALA, EL SALVADOR, ANTIGUA GUATEMALA, LAGO AMATITLAN, C-20
90°38.0W	13°33.5N	1/ 2/74	17°08'56	48-113	GUATEMALA, EL SALVADOR, SAN JOSE, TAXISCO, ACAJUTLA, C-30
90°23.8W	13°16.6N	1/ 2/74	17°09'02	48-114	GUATEMALA, EL SALVADOR, ACAJUTLA, PUNTA REMEDIOS, C-25
90°59.4W	13°43.3N	8/ 1/74	16°27'10	64-084	GUATEMALA, ESCUINTLA, PATULUL, SAN JOSE
90°58.8W	13°39.2N	27/ 1/74	19°08'08	76-254	GUATEMALA, LA GOMERA, SAN JOSE, C-60
90°33.1W	13°11.7N	27/ 1/74	19°08'18	76-255	GUATEMALA, PACIFICO., C-60
90°51.2W	13°52.4N	8/ 1/74	16°27'13	89-290	GUATEMALA, SAN JOSE, ESCUINTLA, VOLCAN AGUA, PATULUL, C-10
90°48.9W	13°51.5N	4/12/73	17°01'15	90-346	GUATEMALA, SAN JOSE, ESCUINTLA C-15
90°33.7W	13°33.3N	4/12/73	17°01'21	90-347	GUATEMALA, SAN JOSE, ISIAPI C-15
90°19.6W	13°17.6N	4/12/73	17°01'28	90-348	GUATEMALA, LAS LISAS C-18
90°46.9W	13°43.6N	1/ 2/74	17°08'52	94-303	GUATEMALA, SAN JOSE, ISTAPA, ESCUINTLA
90°32.1W	13°25.5N	1/ 2/74	17°08'58	94-304	GUATEMALA, EL PAPATURRO, C-10
90°17.3W	13°07.4N	1/ 2/74	17°09'05	94-305	PACIFIC O. OFF CENTRAL AMERICA, C-15
90°36.0W	14°12.3N	8/ 1/74	16°27'20	64-085	GUATEMALA, EL SALVADOR, GUATEMALA CITY, VOLCAN AGUA, LAGO ATITLAN
90°12.0W	14°41.3N	8/ 1/74	16°27'30	64-086	GUATEMALA, EL SALVADOR, GUATEMALA CITY, VOLCAN FUEGO, JALAPA, C-40
90°36.4W	14°10.3N	8/ 1/74	16°27'19	89-291	GUATEMALA, GUATEMALA CITY, LAKE AMATITLAN, VOLCAN ACATENANGO, C-20
90°21.2W	14°29.0N	8/ 1/74	16°27'26	89-292	GUATEMALA, GUATEMALA CITY, ANTIGUA, RIO MOTAGUA, VOLCAN FUEGO, C-35
90°06.7W	14°46.6N	8/ 1/74	16°27'32	89-293	GUATEMALA, CHICHIMULA, ZACAPA, RIO MOTAGUA, JALAPA, C-40
90°26.8W	18°53.5N	28/ 1/74	18°23'51	A4-053	MEXICO (CAMPECHE), CAMPECHE, NOH LAGUNA, C-60
90°01.8W	18°25.1N	28/ 1/74	18°24'01	A4-054	MEXICO (CAMPECHE), GUATEMALA, CHUMPINCH, DOS LAGUNAS, C-70
90°02.8W	18°34.3N	5/12/73	16°17'03	91-017	MEXICO (CAMPECHE), QUINTANA ROO, SILVITUC, C-70
90°51.9W	19°21.8N	28/ 1/74	18°23'41	A4-052	MEXICO (CAMPECHE), CAMPECHE, CHAMPOTON, C-65

Legend

S190 Multispectral Photographic Facility
 S190A Multispectral Photographic Camera
 S190B Earth Terrain Camera
 C Cloud cover in percent
 DD Day in date (Greenwich Mean Time), degree of latitude
 DDD Degree
 HH Hour (Greenwich Mean Time)
 MM Month in date, minute in time (Greenwich Mean Time)

MM.M Minute & tenth of minute of longitude and latitude
 S Snow cover in percent
 SS Second in time (Greenwich Mean Time)
 YY Year
 / Symbol used as a divider in longitude, latitude, and time
 * Incomplete set of multispectral camera frames, see text
 ▲ Frame number differences within multispectral camera frame sets, see text

Table 20. Skylab 4 Multispectral Camera Frame Counts for Incomplete Sets

Index Entry (Sta 4)†	Camera Station											
	1		2		3		4		5		6	
	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame	Roll	Frame
52	49	439	None Available		51	394	52	407	53	404	None Available	
64	61	463	62	457	63	399	64	453	65	433	66	403
70	67	462	68	466	69	416	70	439	71	441	72	440
A4	A1	484	A2	471	A3	433	A4	462	A5	455	A6	457

† Except as noted in the text

In Skylab 4, the first 142 frames of roll 75 (multispectral camera station 3, color infrared) were assigned a number that is one greater than the rest of the set (rolls 73, 74, 76, 77, and 78). These frames are indicated by a solid black triangle (▲) preceding the roll number. When a black triangle is encountered in the index, reduce the frame number for roll 75 by 1 to obtain the correct frame number for roll 75 that will contain the scene listed for roll 76 in the index. For example, the black triangle in Table 19 indicates that the complete set of frames of the scene of Minnesota, Wisconsin, and Iowa at 91°41.0'W, 44°02.5'N contains:

Roll 73, frame 005 (station 1, black-and-white infrared, 0.7 to 0.8 micrometer);

Roll 74, frame 005 (station 2, black-and-white infrared, 0.8 to 0.9 micrometer);
 Roll 75, frame 004 (station 3, color infrared, 0.5 to 0.88 micrometer);
 Roll 76, frame 005 (station 4, color, 0.4 to 0.7 micrometer);
 Roll 77, frame 005 (station 5, black and white, 0.6 to 0.7 micrometer);
 Roll 78, frame 005 (station 6, black and white, 0.5 to 0.6 micrometer).

Also note that, because station 4 (rolls 52, 64, 70, and A4) ran out of film, the index entry changes to the station (roll) with the most frames remaining. Table 20 provides this information, and the index is appropriately marked with an asterisk preceding the roll number.

SKYLAB 2 PHOTOGRAPHIC INDEX

Abbreviations and symbols are explained on page 181.

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
135°04.0W	43°58.5N	2/ 6/73	20°03'37	04-095	-079	CLOUDS OVER PACIFIC OCEAN C98
134°25.4W	43°43.5N	2/ 6/73	20°03'45	04-096	-080	CLOUDS OVER PACIFIC OCEAN C98
133°46.9W	43°28.0N	2/ 6/73	20°03'53	04-097	-081	CLOUDS OVER PACIFIC OCEAN C98
133°10.3W	43°12.1N	2/ 6/73	20°04'01	04-098	-082	CLOUDS OVER PACIFIC OCEAN C97
132°33.4W	42°55.6N	2/ 6/73	20°04'09	04-099	-083	CLOUDS OVER PACIFIC OCEAN C95
131°58.1W	42°38.1N	2/ 6/73	20°04'17	04-100	-084	CLOUDS OVER PACIFIC OCEAN C90
131°24.5W	42°21.0N	2/ 6/73	20°04'25	04-101	-085	CLOUDS OVER PACIFIC OCEAN C95
130°14.9W	41°48.3N	2/ 6/73	20°04'41	04-103	-087	CLOUDS OVER PACIFIC OCEAN C90
130°49.2W	42°04.3N	2/ 6/73	20°04'33	04-102	-086	CLOUDS OVER PACIFIC OCEAN C95
129°39.7W	41°32.2N	2/ 6/73	20°04'49	04-104	-088	CLOUDS OVER PACIFIC OCEAN C80
129°05.7W	41°15.5N	2/ 6/73	20°04'57	04-105	-089	CLOUDS OVER PACIFIC OCEAN C70
128°31.5W	40°55.1N	2/ 6/73	20°05'05	04-106	-090	CLOUDS OVER PACIFIC OCEAN C60
127°57.8W	40°41.5N	2/ 6/73	20°05'13	04-107	-091	CLOUDS OVER PACIFIC OCEAN C60
127°24.9W	40°24.6N	2/ 6/73	20°05'21	04-108	-092	CLOUDS OVER PACIFIC OCEAN C80
126°20.0W	39°50.4N	2/ 6/73	20°05'37	04-110	-094	CLOUDS OVER PACIFIC OCEAN C60
126°51.6W	40°07.3N	2/ 6/73	20°05'29	04-109	-093	CLOUDS OVER PACIFIC OCEAN C80
125°48.3W	39°33.0N	2/ 6/73	20°05'45	04-111	-095	CLOUDS OVER PACIFIC OCEAN C40
125°17.7W	39°16.1N	2/ 6/73	20°05'53	04-112	-096	CLOUDS OVER PACIFIC OCEAN C20
125°24.0W	41°48.5N	3/ 6/73	19°22'13	04-173	-149	CALIFORNIA-OREGON COAST
124°46.7W	38°58.4N	2/ 6/73	20°06'01	04-113	-097	CALIFORNIA, POINT ARENA C10
124°16.0W	38°40.8N	2/ 6/73	20°06'09	04-114	-098	POINT ARENA, HEADSBOURG
124°52.6W	41°31.0N	3/ 6/73	19°22'21	04-174	-150	CRESCENT CITY, PACIFIC OCEAN
124°19.3W	41°14.2N	3/ 6/73	19°22'29	04-175	-151	CRESCENT CITY, EUREKA, REDWOODS N.P., MAD RIVER
123°45.7W	38°23.2N	2/ 6/73	20°06'17	04-115	-099	POINT ARENA, SANTA ROSA C15
123°15.7W	38°05.2N	2/ 6/73	20°06'25	04-116	-100	SAN PABLO BAY, SAN FRANCISCO, VALLEJO, RICHMOND C25
123°45.1W	40°57.3N	3/ 6/73	19°22'37	04-176	-152	EUREKA, MAD RIV., EEL RIV., CLAIR ENGLE RES.
123°11.4W	40°40.8N	3/ 6/73	19°22'45	04-177	-153	REDDING, LAKE SHASTA, TRINITY RIVER
123°17.4W	46°20.5N	11/ 6/73	15°12'40	16-001	-001	COWLITZ RIV., DAVISSON LAKE C60
122°46.1W	37°47.2N	2/ 6/73	20°06'35	04-117	-101	SAN FRANCISCO, S.F. BAY, OAKLAND, PALO ALTO C30
122°16.7W	37°29.3N	2/ 6/73	20°06'41	04-118	-102	SAN FRANCISCO, SAN JOSE, SAN ANDRES FAULT C30
122°37.8W	40°23.6N	3/ 6/73	19°22'53	04-178	-154	REDDING, RED BLUFF, SACRAMENTO RIVER
122°05.2W	40°06.5N	3/ 6/73	19°23'01	04-179	-155	SACRAMENTO VALLEY, MT. LASSEN N.P., CHICO
121°18.4W	36°52.2N	2/ 6/73	20°06'57	04-120	-104	SALINAS, MONTEREY, LOS BANOS, SAN LUIS MFS. C10
121°47.4W	37°10.8N	2/ 6/73	20°06'49	04-119	-103	PALO ALTO, SAN JOSE, LIVERMORE, SANTA CRUZ, SALINAS C20
121°32.2W	39°48.7N	3/ 6/73	19°23'09	04-180	-156	MARYSVILLE, FEATHER RIVER, GROVILLE RES. C15
121°00.3W	39°31.1N	3/ 6/73	19°23'17	04-181	-157	SACRAMENTO VALLEY, SIERRA NEVADA, YUBA RIVER C25
121°36.8W	45°51.1N	11/ 6/73	15°12'58	16-002	-002	PORTLAND, MTS. HOOD, ADAMS + HELENS, COLUMBIA R. C20
120°49.4W	36°33.6N	2/ 6/73	20°07'05	04-121	-105	SALINAS RIV., PINNACLES N.M., FRESNO, SAN ANDRES FAULT
120°21.4W	36°15.0N	2/ 6/73	20°07'13	04-122	-106	COAST RANGE, FRESNO, DIABLO RANGE, CAL., AQUEDUCT
120°28.0W	39°13.1N	3/ 6/73	19°23'25	04-182	-158	LAKE TAHOE, RENO, DONNER PASS, FOLSOM RES. C50
120°32.6W	41°43.2N	30/ 5/73	20°38'59	04-001	-001	BLACK ROCK DESERT C90
120°23.0W	45°26.5N	11/ 6/73	15°13'16	16-003	-003	WASHINGTON, OREGON, COLUMBIA C90
120°27.3W	49°33.2N	10/ 6/73	14°18'59	10-208	-192	OKANAGAN LAKE, B. C. C60
120°14.1W	49°31.1N	10/ 6/73	14°19'01	81-269	-	BRITISH COLUMBIA
119°52.7W	35°56.0N	2/ 6/73	20°07'21	04-123	-107	TULANE LAKE BED, SAN ANDRES FAULT, KETTLEMAN HILLS
119°25.0W	35°37.2N	2/ 6/73	20°07'29	04-124	-108	BAKERSFIELD, TEMBLOR RANGE, ISABELLA RES. C15
119°57.0W	38°55.6N	3/ 6/73	19°23'33	04-183	-159	LAKE TAHOE, RENO, CARSON CITY C70
119°26.3W	38°37.8N	3/ 6/73	19°23'41	04-184	-160	LAKE TAHOE, MONO + WALKER LAKES, YOSEMITE N.P. C60
119°59.0W	41°27.3N	30/ 5/73	20°39'07	04-002	-002	BLACK ROCK DESERT C90
119°26.7W	41°11.3N	30/ 5/73	20°39'15	04-003	-003	DESERT VALLEY, BLACK ROCK DESERT C70
119°05.0W	48°40.0N	9/ 6/73	15°02'38	10-098	-090	GRAND COULEE + CHIEF JOSEPH DAMS
119°07.5W	48°40.5N	9/ 6/73	15°02'37	81-126	-	BRITISH COLUMBIA, WASH.
119°42.2W	49°28.0N	10/ 6/73	14°19'07	10-209	-193	OKANAGAN LAKE, KELOWNA, PENTICTON C60
119°40.8W	49°27.1N	10/ 6/73	14°19'07	81-270	-	VERY DARK, LOW SUN ANGLE, COLUMBIA RIVER C40
119°07.5W	49°23.2N	10/ 6/73	14°19'12	81-271	-	VERY DARK, LOW SUN ANGLE, COLUMBIA RIVER C40
118°30.0W	34°55.0N	2/ 6/73	20°07'45	04-126	-110	TEHACHAPI RANGE, SAN GABRIEL MTS. ANTAPOLO VALLEY C13
118°02.3W	34°35.5N	2/ 6/73	20°07'53	04-127	-111	INTERSECTION OF SAN ANDRES + GARLOCK FAULTS
118°57.0W	35°18.1N	2/ 6/73	20°07'37	04-125	-109	BAKERSFIELD, TEHACHAPI, CAL., AQUEDUCT C20

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
118°55.7W	38°15.5N	3/ 6/73	19°23'49	04-185	-161	MONO LAKE, WALKER LAKE, TIOGA PASS C30
118°26.0W	38°02.1N	3/ 6/73	19°23'57	04-186	-162	MONO LAKE, WALKER LAKE, BISHOP, OWEN'S RIVER C20
118°53.7W	40°55.5N	30/ 5/73	20°39'23	04-004	-004	DESERT VALLEY, HUMBOLDT RIVER C7C
118°21.1W	40°38.3N	30/ 5/73	20°39'31	04-005	-005	HUMBOLDT RIVER, WINNEMUCCA C60
118°30.7W	40°56.3N	14/ 6/73	14°41'20	04-262	-230	CENTRAL NEVADA C5C
118°29.0W	40°42.5N	14/ 6/73	14°41'28	04-263	-231	CENTRAL NEVADA C60
118°57.3W	44°57.2N	11/ 6/73	15°13'34	16-004	-004	JOHN CAY RIVER C65
118°19.0W	48°32.5N	9/ 6/73	15°02'46	10-099	-091	GRAND COULEE DAM, COLUMBIA RIV. LAKE F.D. ROOSEVELT
118°34.9W	48°34.6N	9/ 6/73	15°02'43	81-127	-	COLVILLE, FOR LAKE, COLUMBIA RIVER
118°02.3W	48°28.5N	9/ 6/73	15°02'49	81-128	-	COLVILLE, FOR LAKE, COLUMBIA RIVER C30
118°58.6W	49°22.7N	10/ 6/73	14°19'14	10-210	-194	OLANAGAN LAKE, KELOWNA, LOWER COLUMBIA LAKE C50
118°13.8W	49°16.6N	10/ 6/73	14°19'22	10-211	-195	LOWER COLUMBIA LAKE, TRAIL, NELSON C50
118°34.6W	49°18.5N	10/ 6/73	14°19'18	81-272	-	VERY DARK, LOW SUN ANGLE, COLUMBIA RIVER C40
118°02.0W	49°14.4N	10/ 6/73	14°19'24	81-273	-	VERY DARK, LOW SUN ANGLE, TRAIL C40
117°35.6W	34°20.3N	2/ 6/73	20°08'01	04-128	-112	VICTORVILLE, EDWARDS DRY LAKE, MOJAVE RIVER C55
117°08.6W	34°00.7N	2/ 6/73	20°08'09	04-129	-113	PALM SPRINGS, VICTORVILLE, MOJAVE RIVER C60
117°56.4W	37°44.5N	3/ 6/73	19°24'05	04-187	-163	OWEN'S RIVER, WHITE MTS., TONOPAH, GOLDFIELD C10
117°27.0W	37°26.5N	3/ 6/73	19°24'13	04-188	-164	DEATH VALLEY, PANAMINT RANGE, AMARGOSA DESERT
117°49.4W	40°23.1N	30/ 5/73	20°39'39	04-006	-006	BATTLE MOUNTAIN, HUMBOLDT RIVER C60
117°17.1W	40°05.7N	30/ 5/73	20°39'47	04-037	-007	BATTLE MOUNTAIN, HUMBOLDT RIVER C40
117°56.7W	40°26.3N	14/ 6/73	14°41'36	04-264	-232	CENTRAL NEVADA C80
117°24.7W	40°05.5N	14/ 6/73	14°41'44	04-265	-233	CENTRAL NEVADA C5C
117°35.3W	44°27.5N	11/ 6/73	15°13'52	16-005	-005	ROCK BUTTE, BAKER C8C
117°33.0W	48°22.5N	9/ 6/73	15°02'54	10-100	-092	LAKE F. D. ROOSEVELT, PRIEST LAKE, COLVILLE C30
117°29.7W	48°22.2N	9/ 6/73	15°02'54	81-129	-	LAKE FOR, PEND OREILLE RIVER C40
117°29.0W	49°10.5N	10/ 6/73	14°19'31	10-212	-196	LOWER COLUMBIA LAKE, COLUMBIA RIVER, TRAIL C50
117°29.0W	49°09.8N	10/ 6/73	14°19'30	81-274	-	VERY DARK, LOW SUN ANGLE, PEND OREILLE RIVER C40
116°42.2W	33°41.1N	2/ 6/73	20°08'17	04-130	-114	SALTON SEA, COACHELLA VALLEY, PALM SPGS, 29-PALMS C30
116°15.8W	33°21.4N	2/ 6/73	20°08'25	04-131	-115	SALTON SEA, COACHELLA VALLEY, IMPERIAL VALLEY C15
116°25.0W	36°46.2N	3/ 6/73	19°24'29	04-190	-166	DEATH VALLEY, BADWATER, JACKASS FLAT, PARUMP VALLEY
116°00.0W	36°30.5N	3/ 6/73	19°24'37	04-191	-167	DEATH VALLEY, BADWATER, SPRING MTS., SHEEP RANGE
116°57.7W	37°07.5N	3/ 6/73	19°24'21	04-189	-165	DEATH VALLEY, FURNACE CREEK, YUCCA FLAT
116°45.5W	39°47.5N	30/ 5/73	20°39'55	04-008	-008	CORTEZ MOUNTAIN, EUREKA C20
116°14.8W	39°31.1N	30/ 5/73	20°40'03	04-009	-009	EUREKA, CORTEZ MOUNTAIN, DIAMOND MOUNTAIN C15
116°52.1W	39°52.3N	14/ 6/73	14°41'52	04-266	-234	CENTRAL NEVADA C6C
116°21.4W	39°35.2N	14/ 6/73	14°42'00	04-267	-235	CENTRAL NEVADA C80
116°00.3W	41°48.3N	5/ 6/73	17°57'13	10-001	-001	INDEPENDENCE MTS., OWYHEE
116°13.2W	43°56.2N	11/ 6/73	15°14'10	16-006	-006	BOISE, SNAKE RIVER, PAYETTE RIVER C50
116°52.0W	48°13.5N	9/ 6/73	15°03'02	10-101	-093	PRIEST LAKE, NEWPORT, PEND OREILLE RIVER C75
116°09.0W	48°05.5N	9/ 6/73	15°03'10	10-102	-094	IDAHO, MONTANA UNDER CLOUDS C90
116°02.0W	48°57.5N	10/ 6/73	14°19'46	10-214	-198	SELKIRK RANGE, BONNERS FERRY, KOOTENAI LAKE C50
116°57.4W	48°15.5N	9/ 6/73	15°03'00	81-130	-	PEND OREILLE RIVER C50
116°25.4W	48°09.4N	9/ 6/73	15°03'06	81-131	-	PRIEST LAKE, IDAHO C75
116°44.5W	49°04.1N	10/ 6/73	14°19'39	10-213	-197	PRIEST LAKE, TRAIL, BONNERS FERRY, SELKIRK RANGE C50
116°56.4W	49°05.1N	10/ 6/73	14°19'36	81-275	-	VERY DARK, LOW SUN ANGLE, PEND OREILLE RIVER C50
116°23.7W	49°00.3N	10/ 6/73	14°19'42	81-276	-	VERY DARK, TERRAIN, LOW SUN, KOOTENAI RIVER C40
115°23.4W	32°41.4N	2/ 6/73	20°08'41	04-133	-117	IMPERIAL VALLEY, MEXICALI, ALL AMERICAN CANAL, YUMA
115°49.5W	33°01.5N	2/ 6/73	20°08'33	04-132	-116	SALTON SEA, IMPERIAL VALLEY, MEXICALI
115°03.7W	35°52.5N	3/ 6/73	19°24'53	04-193	-169	LAS VEGAS, LAKE MEAD, HOOVER DAM, LAKE MOJAVE
115°32.0W	36°11.8N	3/ 6/73	19°24'45	04-192	-168	LAS VEGAS, LAKE MEAD, SPRING MTS., PARUMP VALLEY
115°12.9W	38°56.3N	30/ 5/73	20°40'19	04-011	-011	ELY, MCGILL, EGAN RANGE
115°43.2W	39°13.6N	30/ 5/73	20°40'11	04-010	-010	ELY, WHITE PINE RANGE, MT. HAMILTON C10
115°50.1W	39°17.5N	14/ 6/73	14°42'08	04-268	-236	SOUTHEAST NEVADA C80
115°19.6W	39°00.7N	14/ 6/73	14°42'16	04-269	-237	SOUTHEAST NEVADA C80
115°25.7W	41°31.4N	5/ 6/73	17°57'21	10-002	-002	ELKO, HUMBOLDT RIVER, INDEPENDENCE MTS., JACKPOT
115°55.4W	41°45.1N	5/ 6/73	17°57'14	81-001	-	IDAHO, NEVADA LINE AT OWYHEE
115°30.0W	41°32.5N	5/ 6/73	17°57'20	81-002	-	INDEPENDENCE MTS., COPPER MT.
115°05.0W	41°20.7N	5/ 6/73	17°57'26	81-003	-	WELLS, HUMBOLDT RIVER, RUBY MTS.
115°21.8W	47°56.7N	9/ 6/73	15°03'18	10-103	-095	IDAHO, MONTANA UNDER CLOUDS C95
115°21.5W	47°55.8N	9/ 6/73	15°03'18	81-133	-	IDAHO C90
115°18.2W	48°50.4N	10/ 6/73	14°19'54	10-215	-199	LIBBY, FLATHEAD MTS, LAKE PEND OREILLE, SANDPOINT C50
115°53.8W	48°02.6N	9/ 6/73	15°03'12	81-132	-	IDAHO C90
115°51.4W	48°55.2N	10/ 6/73	14°19'48	81-277	-	VERY DARK, TERRAIN, LOW SUN, BONNERS FERRY C40
115°19.1W	48°49.5N	10/ 6/73	14°19'54	81-278	-	VERY DARK, TERRAIN, LOW SUN, KOOTENAI RIVER C40
114°06.6W	31°40.7N	2/ 6/73	20°09'05	04-136	-120	MOUTH OF COLORADO, SEA OF CORTEZ, GREAT SONORAN DESERT

LONGITUDE DDD°MM'.M	LATITUDE DD°MM'.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
114°58.1W	32°21.4N	2/ 6/73	20°08'49	04-134	-118	IMPERIAL VALLEY, COLO. RIVER, YUMA, SONORAN DESERT
114°31.7W	32°00.6N	2/ 6/73	20°08'57	04-135	-119	MOUTH OF COLORADO, YUMA
114°36.0W	35°34.1N	3/ 6/73	19°25'01	04-194	-170	LAKE MEAD, COLO. RIVER, BLACK MTS., KINGMAN
114°08.0W	35°14.6N	3/ 6/73	19°25'09	04-195	-171	COLO. RIVER, KINGMAN, GATMAN MINING DISTRICT
114°42.2W	38°38.7N	30/ 5/73	20°40'27	04-012	-012	ELY, SCHELL CREEK RANGE, SNAKE RANGE
114°11.9W	38°20.9N	30/ 5/73	20°40'35	04-013	-013	WHEELER PEAK, SNAKE RANGE, WHITERIVER VALLEY
114°49.2W	38°43.0N	14/ 6/73	14°42'24	04-270	-238	SOUTHWEST UTAH C60
114°18.8W	38°25.2N	14/ 6/73	14°42'32	04-271	-239	SOUTHWEST UTAH C60
114°40.9W	38°37.5N	14/ 6/73	14°42'26	81-377	-	NEVADA C80
114°17.8W	40°57.5N	5/ 6/73	17°57'37	10-004	-004	GREAT SALT DESERT, WENDOVER, WELLS
114°15.2W	40°55.5N	5/ 6/73	17°57'38	81-005	-	WENDOVER UTAH, GREAT SALT DESERT
114°52.1W	41°14.5N	5/ 6/73	17°57'29	10-003	-003	WELLS ELKA, RUBY MTS., INDEPENDENCE MTS.
114°39.9W	41°08.3N	5/ 6/73	17°57'32	81-004	-	WELLS, ONYHEE RIVER, RUBY MTS.
114°52.8W	43°23.6N	11/ 6/73	15°14'28	16-007	-007	MOUNTAIN HOME, SNAKE RIVER, SOLOMON RIVER MTS. C50
114°38.9W	47°47.2N	9/ 6/73	15°03'26	10-104	-096	IDAHO, MONTANA UNDER CLOUDS C95
114°49.2W	47°45.5N	9/ 6/73	15°03'24	81-134	-	IDAHO-MONTANA C100
114°17.8W	47°42.0N	5/ 6/73	15°03'30	81-135	-	MONTANA C100
114°34.3W	48°43.0N	10/ 6/73	14°20'03	10-216	-200	KALISPELL, FLATHEAD LAKE, WHITEFISH RANGE C50
114°46.8W	48°44.5N	10/ 6/73	14°20'00	81-279	-	VERY DARK, TERRAIN, LOW SUN, KOOTENAI RIVER C50
114°14.5W	48°38.5N	10/ 6/73	14°20'06	81-280	-	COLUMBIA FALLS, WEST GLACIER C60
113°16.2W	30°59.5N	2/ 6/73	20°09'21	04-138	-122	BAHIA SAN JORGE, SEA OF CORTEZ, UNIQUE SEA STATE
113°41.3W	31°20.1N	2/ 6/73	20°09'13	04-137	-121	SEA OF CORTEZ, CERRO PINACATE VOLCANICS, ALTAR DESERT
113°40.3W	34°55.4N	3/ 6/73	19°25'17	04-196	-172	COLO. RIVER, HAVASU LAKE, HUALPAI MTS.
113°13.2W	34°36.3N	3/ 6/73	19°25'25	04-197	-173	HAVASU LAKE, PRESCOTT, BILL WILLIAMS RIV., AQUARIUS MTS
113°12.3W	37°44.5N	30/ 5/73	20°40'51	04-015	-015	MILFORD, BEAVER, CEDAR BREAKS, UTAH
113°18.9W	37°49.2N	14/ 6/73	14°42'48	04-273	-241	KAIBAB PLATEAU C80
113°05.3W	37°40.2N	14/ 6/73	14°42'51	81-379	-	NEVADA C98
113°42.2W	38°03.1N	30/ 5/73	20°40'43	04-014	-014	WAH WAH MTS., ESCALANTE DESERT
113°48.5W	38°07.2N	14/ 6/73	14°42'40	04-272	-240	SOUTHWEST UTAH C60
113°52.8W	38°09.0N	14/ 6/73	14°42'38	81-378	-	NEVADA C80
113°44.6W	40°41.1N	5/ 6/73	17°57'45	10-005	-005	GREAT SALT DESERT, WENDOVER, WELLS
113°11.3W	40°24.1N	5/ 6/73	17°57'53	10-006	-006	GREAT SALT LAKE, GREAT SALT DESERT
113°50.5W	40°43.6N	5/ 6/73	17°57'43	81-006	-	WENDOVER GREAT SALT DESERT
113°26.1W	40°31.1N	5/ 6/73	17°57'49	81-007	-	WENDOVER GREAT SALT DESERT
113°01.7W	40°18.4N	5/ 6/73	17°57'55	81-008	-	GREAT SALT DESERT, DESERET PEAK, TOOELE
113°34.0W	42°50.5N	11/ 6/73	15°14'46	16-008	-008	IDAHO, CLOUDS C90
113°55.8W	47°37.4N	9/ 6/73	15°03'34	10-105	-097	MONTANA UNDER CLOUDS C65
113°13.9W	47°27.7N	9/ 6/73	15°03'42	10-106	-098	MONTANA UNDER CLOUDS C95
113°46.5W	47°34.7N	9/ 6/73	15°03'36	81-136	-	MONTANA C90
113°15.9W	47°27.3N	9/ 6/73	15°03'41	81-137	-	MONTANA C85
113°50.5W	48°35.2N	10/ 6/73	14°20'11	10-217	-201	KALISPELL, FLATHEAD LAKE, HUNGRY HORSE LAKE C50
113°05.0W	48°27.6N	10/ 6/73	14°20'18	10-218	-202	GLACIER NATIONAL PARK, FLATHEAD RANGE, CUT BANK C30
113°42.9W	48°33.3N	10/ 6/73	14°20'12	81-281	-	GLACIER NATIONAL PARK C60
113°10.9W	48°27.2N	10/ 6/73	14°20'18	81-282	-	BLACKFEET RESERVATION, TWO MEDICINE RIVER C60
112°03.0W	29°57.5N	2/ 6/73	20°09'45	04-141	-125	SEA OF CORTEZ, PUNTA BOLA, RIO SAN IGNACIO
112°51.8W	30°35.4N	2/ 6/73	20°09'29	04-139	-123	SEA OF CORTEZ, RIO CONCEPCION, UNIQUE SEA STATE
112°27.1W	30°18.5N	2/ 6/73	20°09'37	04-140	-124	SEA OF CORTEZ, RIO CONCEPCION, UNIQUE SEA STATE
112°20.5W	33°55.2N	3/ 6/73	19°25'41	04-199	-175	PHOENIX, GILA RIVER, PRESCOTT, VERDE RIVER
112°46.2W	34°16.6N	3/ 6/73	19°25'33	04-198	-174	GILA RIVER, PRESCOTT, VERDE RIVER
112°42.9W	37°26.7N	30/ 5/73	20°40'59	04-016	-016	BRYCE CANYON N.P., CEDAR CITY
112°13.9W	37°08.5N	30/ 5/73	20°41'07	04-017	-017	LAKE POWELL, KAIBAB PLATEAU, ZION N.P.
112°49.2W	37°30.5N	14/ 6/73	14°42'56	04-274	-242	KAIBAB PLATEAU C80
112°19.9W	37°12.5N	14/ 6/73	14°43'04	04-275	-243	KAIBAB PLATEAU C80
112°18.5W	37°11.0N	14/ 6/73	14°43'04	81-380	-	UTAH C80
112°05.7W	39°49.2N	5/ 6/73	17°58'09	10-008	-008	UTAH LAKE, WASATCH MTS.
112°22.2W	39°15.5N	5/ 6/73	17°58'17	10-009	-009	UTAH LAKE, WASATCH MTS.
112°12.3W	39°53.3N	5/ 6/73	17°58'07	81-010	-	UTAH LAKE, SPANISH FOR, NEPHI
112°38.0W	40°06.7N	5/ 6/73	17°58'01	10-007	-007	UTAH LAKE, GREAT SALT LAKE, GREAT SALT DESERT
112°37.3W	40°05.7N	5/ 6/73	17°58'01	81-009	-	GREAT SALT DESERT, DESERET PEAK, UTAH LAKE
112°16.2W	42°16.0N	11/ 6/73	15°15'04	16-009	-009	IDAHO, CLOUDS C100
112°31.7W	45°57.4N	13/ 6/73	13°47'54	16-220	-203	BUTTE, BEAVERHEAD RIVER C50
112°32.4W	47°17.4N	9/ 6/73	15°03'50	10-107	-099	MONTANA UNDER CLOUDS C50
112°45.6W	47°15.5N	9/ 6/73	15°03'47	81-138	-	MONTANA C80
112°15.6W	47°12.5N	9/ 6/73	15°03'53	81-139	-	MONTANA C80
112°25.8W	48°19.2N	10/ 6/73	14°20'26	10-219	-203	CUT BANK, MARIAS RIVER, CONRAD C20
112°39.3W	48°21.2N	10/ 6/73	14°20'24	81-283	-	MARIAS RIVER, LAKE FRANCIS C50

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190 A B+W -FRAME	LOCATION AND COMMENTS
112°07.7W	48°15.0N	1C/ 6/73	14°20'30	81-284	-	CONRAD, LAKE FRANCIS, MARIAS RIVER
111°38.7W	29°37.0N	2/ 6/73	20°09'53	04-142	-126	SEA OF CORTEZ, RIO SAN IGNACIO
111°14.3W	29°15.5N	2/ 6/73	20°10'01	04-143	-127	HERMASILLO, RIO SONORA
111°01.1W	32°55.4N	3/ 6/73	19°26'05	04-202	-178	TUCSON, ROOSEVELT RES., SAN CARLOS RES., GLOBE
111°52.8W	33°37.4N	3/ 6/73	19°25'49	04-200	-176	PHOENIX, ROOSEVELT RES., GILA RIVER, GLOBE
111°26.5W	33°17.5N	3/ 6/73	19°25'57	04-201	-177	PHOENIX, GLOBE, SUPERSTITION MTS. GILA RIVER
111°44.9W	36°45.5N	30/ 5/73	20°41'15	04-018	-018	LAKE POWELL, KAIBAB PLATEAU, GRAND CANYON
111°15.9W	36°31.3N	30/ 5/73	20°41'23	04-019	-019	LAKE POWELL, GRAND CANYON, BLACK MESA
111°51.2W	36°54.4N	14/ 6/73	14°43'12	04-276	-244	KAIBITO PLATEAU, MARBLE CANYON C70
111°22.5W	36°35.7N	14/ 6/73	14°43'20	04-277	-245	ECHO CLIFFS, KAIBITO PLATEAU C60
111°32.4W	36°41.5N	14/ 6/73	14°43'17	81-381	-	ARIZONA C80
111°01.1W	39°13.6N	5/ 6/73	17°58'25	10-010	-010	SAN RAFAEL SWELL, PRICE, GREEN RIV., CAPITAL REEF
111°49.5W	39°35.1N	5/ 6/73	17°58'13	81-011	-	UTAH LAKE, WASATCH MTS., SPANISH FORK
111°26.4W	39°26.5N	5/ 6/73	17°58'19	81-012	-	WASATCH MTS., PRICE, HUNTINGTON
111°02.7W	39°13.8N	5/ 6/73	17°58'25	81-013	-	SAN RAFAEL SWELL, EPHRAIM, PRICE RIVER
111°00.4W	41°40.6N	11/ 6/73	15°15'22	16-010	-010	GREEN RIVER, UINTEA MTS. KINGS PEAK C70
111°52.8W	45°45.2N	13/ 6/73	13°48'02	16-221	-204	BUTTE, RUBY RANGE, BEAVERHEAD RIVER C30
111°14.3W	45°32.8N	13/ 6/73	13°48'10	16-222	-205	VIRGINIA CITY, RUBY + TOBACCO ROOT RANGES, MADISON P.
111°30.4W	45°37.2N	13/ 6/73	13°48'06	82-136	-	MONTANA
111°01.7W	45°28.2N	13/ 6/73	13°48'12	82-137	-	BEAVERHEAD RIVER, RUBY RANGE
111°11.3W	46°56.5N	5/ 6/73	15°04'06	10-109	-101	MONTANA AT HELENA C90
111°16.2W	46°57.2N	5/ 6/73	15°04'05	81-141	-	MONTANA C80
111°49.9W	47°05.7N	5/ 6/73	15°03'58	10-108	-100	MONTANA UNDER CLOUDS C90
111°43.6W	47°03.6N	9/ 6/73	15°03'59	81-140	-	MONTANA C80
111°42.9W	48°10.7N	1C/ 6/73	14°20'35	10-220	-204	GREAT FALLS, MISSOURI RIVER, TETON RIVER
111°01.1W	48°02.1N	10/ 6/73	14°20'43	10-221	-205	GREAT FALLS, MISSOURI RIVER, HIGHWOOD MTS.
111°36.4W	48°08.7N	1C/ 6/73	14°20'35	81-285	-	CONRAD, MARIAS RIVER, TIBER RES.
111°05.0W	48°02.3N	10/ 6/73	14°20'41	81-286	-	TIBER RES., MARIAS RIVER, MISSOURI RIVER
110°50.9W	28°55.1N	2/ 6/73	20°10'09	04-144	-128	HERMASILLO, RIO SONORA, GUAYMAS
110°26.8W	28°33.5N	2/ 6/73	20°10'17	04-145	-129	GUAYMAS, RIO MATOPD
110°03.7W	28°12.6N	2/ 6/73	20°10'25	04-146	-130	VALLE DE GUAYMAS, ALVARO OBREGON RES.
110°35.0W	32°35.4N	3/ 6/73	19°26'13	04-203	-179	TUCSON, SAN CARLOS RES., GILA RIVER, SAN PEDRO RIVER
110°08.7W	32°17.8N	3/ 6/73	19°26'21	04-204	-180	TUCSON, WILLCOX DRY LAKE, SAFFORD, SALIUD MTS.
110°19.6W	35°53.5N	30/ 5/73	20°41'39	04-021	-021	BLACK MESA, CANYON DE CHELLY C15
110°25.5W	35°58.0N	14/ 6/73	14°43'36	04-279	-247	BLACK MESA, PAINTED DESERT C30
110°47.9W	36°12.8N	30/ 5/73	20°41'31	04-020	-020	NAVAJO MT., BLACK MESA, PAINTED DESERT C10
110°53.8W	36°16.5N	14/ 6/73	14°43'28	04-278	-246	BLACK MESA, CLIFFS C50
110°29.4W	38°55.8N	5/ 6/73	17°58'33	10-011	-011	SAN RAFAEL SWELL, DESOLATION CAN., CANYONLANDS N.P.
110°16.6W	38°47.7N	5/ 6/73	17°58'36	81-015	-	GREEN RIVER, CANYONLANDS NATIONAL PARK
110°39.3W	39°00.7N	5/ 6/73	17°58'30	81-014	-	SAN RAFAEL SWELL, GREEN RIVER, GOBLIN VALLEY
110°36.7W	45°20.3N	13/ 6/73	13°48'18	16-223	-206	YELLOWSTONE N.P., ABSOROKA RANGE, YELLOWSTONE P. C30
110°33.7W	45°18.6N	13/ 6/73	13°48'18	82-138	-	TOBACCO ROOT RANGE, MADISON RIVER
110°05.1W	45°08.2N	13/ 6/73	13°48'24	82-139	-	YELLOWSTONE N.P., ABSOROKA RANGE
110°34.1W	46°47.2N	9/ 6/73	15°04'14	10-110	-102	BIG SNOWY MTS, CRAZY MTS., WHITE SULPHUR SPGS C60
110°46.3W	46°48.5N	9/ 6/73	15°04'11	81-142	-	MUSSELSHELL RIVER C70
110°19.6W	46°42.7N	5/ 6/73	15°04'17	91-143	-	BIG SNOWY MTS., MUSSELSHELL RIVER C40
110°22.9W	47°54.5N	10/ 6/73	14°20'50	10-222	-206	GREAT FALLS, MISSOURI RIVER, MARIAS RIV, JUDITH BASIN
110°37.0W	47°57.0N	10/ 6/73	14°20'47	81-287	-	MISSOURI RIVER, FORT BENTON, WHITE CLIFFS
110°06.0W	47°50.1N	1C/ 6/73	14°20'53	81-288	-	MISSOURI RIVER, JUDITH LANDING
109°40.0W	27°51.3N	2/ 6/73	20°10'33	04-147	-131	CIUDAD OBREGON, RIO YAQUE SIERRA MADRE OCCIDENTAL
109°16.6W	27°29.5N	2/ 6/73	20°10'41	04-148	-132	CIUDAD OBREGON, IRRIGATED FIELDS, MOLUZARI RES.
109°43.3W	31°57.6N	3/ 6/73	19°26'29	04-205	-181	DOUGLAS, AGUA PRIETA WILLCOX DRY LAKE, CHIRICHUA MT.
109°17.9W	31°37.1N	3/ 6/73	19°26'37	04-206	-182	DOUGLAS, AGUA PRIETA, CHIRICAHUA MT.
109°51.2W	35°34.8N	30/ 5/73	20°41'47	04-022	-022	CANYON DE CHELLY, WINDOW ROCK, GALLUP C20
109°23.9W	35°15.8N	30/ 5/73	20°41'55	04-023	-023	CHUSKA MTS., GALLUP, ZUNI C30
109°57.5W	35°29.0N	14/ 6/73	14°43'44	04-280	-248	BLACK MESA, KEAMS CANYON, HOPI BUTTES C15
109°29.5W	35°19.8N	14/ 6/73	14°43'52	04-281	-249	GALLUP, PAINTED DESERT
109°01.4W	35°00.0N	14/ 6/73	14°44'00	04-282	-250	GALLUP, WINDOW ROCK, BLACK CREEK
109°59.1W	38°38.2N	5/ 6/73	17°58'41	10-012	-012	MOAB, CANYONLANDS NATIONAL PARK, COLORADO RIVER
109°28.5W	38°20.4N	5/ 6/73	17°58'49	10-013	-013	MOAB, LA SAL MTS, ABAJO MTS, PARADOX VALLEY
109°54.2W	38°34.0N	5/ 6/73	17°58'42	81-016	-	GREEN RIVER JUNCTION WITH COLORADO, MOAB
109°32.8W	38°22.7N	5/ 6/73	17°58'48	81-017	-	COLORADO RIVER, DEAD HORSE POINT, MOAB, LA SAL MTS.
109°10.3W	38°08.7N	5/ 6/73	17°58'54	81-018	-	LA SAL MTS., MONTICELLO, DOLORES RIVER, COLORADO
109°45.9W	41°04.3N	11/ 6/73	15°15'40	16-011	-011	FLAMING GORGE, GREEN RIVER, UINTEA MTS, VERNAL C60
109°26.2W	43°37.4N	13/ 6/73	13°48'34	16-225	-208	ABSOROKA RANGE, BIG HORN BASIN, BIG HORN RIVER
109°11.7W	44°51.8N	13/ 6/73	13°48'36	82-141	-	YELLOWSTONE N.P., ABSOROKA RANGE
109°58.8W	45°07.7N	13/ 6/73	13°48'26	16-224	-207	YELLOWSTONE N.P., ABSOROKA RANGE, YELLOWSTONE P. C30

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
109°38.4W	45°00.2N	13/ 6/73	13°48'30	82-140	-	YELLOWSTONE N.P., ABSOROKA RANGE
109°53.5W	46°36.1N	9/ 6/73	15°04'22	10-111	-103	LEWISTON, BIG SNOWY MTS, BIG TIMBER C30
109°50.2W	46°34.4N	9/ 6/73	15°04'23	81-144	-	JUDITH GAP, BIG SNOWY MTS. C15
109°19.2W	46°28.7N	9/ 6/73	15°04'28	81-145	-	BIG SNOWY MTS., MUSSELSHELL RIVER
109°40.3W	47°45.0N	10/ 6/73	14°20'58	10-223	-207	MISSOURI RIVER, LEWISTON C30
109°35.1W	47°43.2N	10/ 6/73	14°20'59	81-289	-	MISSOURI RIVER, JUDITH LANDING
109°04.1W	47°35.5N	10/ 6/73	14°21'05	81-290	-	MISSOURI RIVER, COW ISLAND LANDING C40
108°30.8W	26°47.7N	2/ 6/73	20°10'57	04-150	-134	MIGUEL HIDALGO RES. RIO FUERTA
108°08.4W	26°25.5N	2/ 6/73	20°11'05	04-151	-135	MIGUEL HIDALGO RES., RIO FUERTA, LOS MICHIS
108°53.9W	27°06.7N	2/ 6/73	20°10'49	04-149	-133	NAVOJOA, MIGUEL HIDALGO RES. SIERRA MADRE OCCIDENTAL
108°27.8W	30°56.2N	3/ 6/73	19°26'53	04-208	-184	NUEVA CASAS GRANDES, RIO SANTA MARIA
108°02.8W	30°35.5N	3/ 6/73	19°27'01	04-209	-185	NUEVA CASAS GRANDES, RIO SANTA MARIA
108°52.2W	31°16.5N	3/ 6/73	19°26'45	04-207	-183	CHIRICAHUA MT., ANIMAS MTS., RIO CASAS GRANDES
108°56.2W	34°56.5N	30/ 5/73	20°42'03	04-024	-024	ZUNI MTS., CHUSKA MTS.
108°29.5W	34°37.4N	30/ 5/73	20°42'11	04-025	-025	NEW MEXICO, LAVA FLOWS, MADRE MT. C70
108°02.1W	34°17.8N	30/ 5/73	20°42'19	04-026	-026	GALLINAS MTS. C80
108°33.8W	34°35.1N	14/ 6/73	14°44'08	04-283	-251	GALLUP, ZUANI MTS.
108°07.1W	34°19.5N	14/ 6/73	14°44'16	04-284	-252	NEW MEXICO LAVA FLOWS, GALLO MTS.
108°28.8W	37°44.3N	5/ 6/73	17°59'05	10-015	-015	MESA VERDE NATIONAL PARK, DURANGO, SAN JUAN MTS.
108°00.1W	37°27.1N	5/ 6/73	17°59'13	10-016	-016	DURANGO, SILVERTON, TELLURIDE, RIO GRANDE RES.
108°48.3W	37°59.2N	5/ 6/73	17°59'00	81-019	-	PARADOX VALLEY, DOLORES RIVER, SAN MIGUEL RIVER
108°26.8W	37°42.1N	5/ 6/73	17°59'06	81-020	-	LA PLATA MTS., TELLURIDE, LIZARD HEAD
108°04.1W	37°26.3N	5/ 6/73	17°59'12	81-021	-	MESA VERDE N. P., DURANGO, SILVERTON, CORTEZ
109°59.1W	38°02.6N	5/ 6/73	17°58'57	10-014	-014	LA SAL MTS., UNCOMPAHGRE PLATEAU, CORTEZ
108°32.8W	40°27.1N	11/ 6/73	15°15'58	16-012	-012	VERNAL, GREEN RIV., LADORE CAN., DINOSAUR, NM C50
108°43.3W	44°40.4N	13/ 6/73	13°48'42	16-226	-209	BIG HORN BASIN, RIVER, + MTS., CODY
108°08.4W	44°25.4N	13/ 6/73	13°48'50	16-227	-210	BIG HORN BASIN, RIVER, + MTS., CODY
108°42.0W	44°35.2N	13/ 6/73	13°48'42	82-142	-	BIG HORN BASIN, BIG HORN RIVER
108°16.6W	44°31.8N	13/ 6/73	13°48'48	82-143	-	BIG HORN BASIN, BIG HORN RIVER
108°33.4W	46°12.2N	5/ 6/73	15°04'38	10-113	-105	BILLINGS, YELLOWSTONE RIVER
108°43.0W	46°24.5N	9/ 6/73	15°04'34	81-146	-	BILLINGS, YELLOWSTONE RIVER
108°19.3W	46°06.6N	9/ 6/73	15°04'40	81-147	-	BILLINGS, YELLOWSTONE RIVER
108°47.3W	47°04.3N	5/ 6/73	15°04'30	10-112	-104	BILLINGS, BIG SNOWY MTS, MUSSELSHELL RIVER
108°56.8W	47°34.6N	10/ 6/73	14°21'07	10-224	-208	MISSOURI RIVER, LEWISTON C50
108°16.6W	47°25.2N	10/ 6/73	14°21'15	10-225	-209	MUSSELSHELL RIVER C75
108°30.8W	47°27.3N	10/ 6/73	14°21'11	81-291	-	MONTANA C80
108°02.8W	47°15.1N	10/ 6/73	14°21'17	81-292	-	MONTANA C50
107°23.2W	25°42.0N	2/ 6/73	20°11'21	04-153	-137	RIO HUYAYA, SIERRA MADRE OCCIDENTAL C15
107°45.6W	26°03.5N	2/ 6/73	20°11'13	04-152	-136	SIERRA MADRE OCCIDENTAL, CULICAN
107°14.0W	29°54.0N	3/ 6/73	19°27'17	04-211	-187	SIERRA DEL NIDO, RIO SANTA MARIA
107°38.7W	30°15.0N	3/ 6/73	19°27'09	04-210	-186	SIERRA DEL NIDO, RIO SANTA MARIA
107°35.4W	33°58.3N	30/ 5/73	20°42'27	04-027	-027	RIO GRANDE RIVER C80
107°09.1W	33°38.7N	30/ 5/73	20°42'35	04-028	-028	RIO GRANDE RIVER, SOCORRO C80
107°13.0W	33°40.2N	14/ 6/73	14°44'32	04-286	-254	TRUTH OR CONSEQUENCES, RIO GRANDE, ELEPHANT BUTTE RES
107°39.7W	34°00.0N	14/ 6/73	14°44'24	04-285	-253	RIO GRANDE, SOCORRO
107°01.8W	36°45.6N	5/ 6/73	17°59'29	10-018	-018	PAGOSA SPRINGS, NAVAJO LAKE, WOLF CREEK PASS
107°01.2W	36°48.4N	5/ 6/73	17°59'29	81-024	-	PAGOSA SPRINGS, NAVAJO LAKE, GOBENADUK RIVER
107°31.1W	37°08.5N	5/ 6/73	17°59'21	10-017	-017	NAVAJO LAKE, PAGOSA SPRINGS, SAN JUAN MTS.
107°43.7W	37°15.4N	5/ 6/73	17°59'17	81-022	-	DURANGO, LAS ANIMAS RIVER, VALLECITO LAKE
107°22.6W	37°02.8N	5/ 6/73	17°59'23	81-023	-	DURANGO, NAVAJO LAKE, NEW MEXICO, SAN JUAN RIVER
107°29.8W	39°54.6N	11/ 6/73	15°16'14	16-014	-014	GLENWOOD + STEAMBOAT SPRINGS, WHITE RIV. MTS. C60
107°59.5W	40°08.6N	11/ 6/73	15°16'06	16-013	-013	GREEN, YAMPA, WHITE, + COLORADO RIVERS C40
107°32.5W	44°16.0N	13/ 6/73	13°48'58	16-228	-211	BIG HORN BASIN, RIVER, + MTS., CODY
107°47.3W	44°15.0N	13/ 6/73	13°48'54	82-144	-	BIG HORN BASIN, BIG HORN RIVER
107°22.2W	44°11.4N	13/ 6/73	13°49'00	82-145	-	BIG HORN BASIN, BIG HORN MTS.
107°17.0W	45°45.1N	9/ 6/73	15°04'54	10-115	-107	BIG HORN RIVER, LITTLE BIG HORN RIV, CUSTER BATTLEFIELD
107°24.9W	45°51.1N	9/ 6/73	15°04'52	81-149	-	YELLOWSTONE RIVER, BIG HORN RIVER
107°55.9W	46°01.3N	5/ 6/73	15°04'46	10-114	-106	BILLINGS, YELLOWSTONE RIVER BIG HORN RIVER
107°53.9W	46°00.0N	9/ 6/73	15°04'46	81-148	-	YELLOWSTONE RIVER, BIG HORN RIVER
107°38.4W	47°11.0N	10/ 6/73	14°21'22	10-226	-210	MONTANA C95
107°30.2W	47°11.4N	10/ 6/73	14°21'23	81-293	-	MONTANA C95
107°00.5W	47°03.2N	10/ 6/73	14°21'29	81-294	-	MONTANA C98
106°02.2W	28°51.3N	3/ 6/73	19°27'41	04-214	-190	CHIHUAHUA, DELICIAS, SAN PEDRO RIO
106°50.3W	29°33.4N	3/ 6/73	19°27'25	04-212	-188	LAGUNA BUSILLOS, SIERRA DEL NIDO

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
106°25.9W	29°12.3N	3/ 6/73	19°27'33	04-213	-189	CHIHUAHUA, LAGUNA BUSILLOS, LAGUNA CUERVA
106°16.0W	22°58.5N	30/ 5/73	20°42'51	04-030	-030	WHITE SANDS, MALPAIS LAVA FLOW C50
106°42.4W	33°18.8N	30/ 5/73	20°42'43	04-029	-029	RIO GRANDE RIVER, MALPAIS LAVA FLOW, WHITE SANDS
106°46.7W	33°20.3N	14/ 6/73	14°44'40	04-287	-255	WHITE SANDS, LAS CRUCES, RIO GRANDE, CABALLO RES.
106°20.3W	33°00.3N	14/ 6/73	14°44'48	04-288	-256	WHITE SANDS, ANTHONY MTS., SACRAMENTO MTS.
106°33.1W	36°31.1N	5/ 6/73	17°59'37	10-019	-019	LOS ALAMOS, JEMEZ MTS., CONEJOS RIVER, RIO GRANDE
106°04.5W	36°12.2N	5/ 6/73	17°59'45	10-020	-020	SANGREE DE CRISTO MTS., SANTA FE, JEMEZ MTS.
106°40.1W	36°34.7N	5/ 6/73	17°59'35	81-025	-	CHAMA, EL VADO LAKE, DULCE
106°19.0W	36°21.1N	5/ 6/73	17°59'41	81-026	-	RIO GRANDE RIVER, TAOS, LOS ALAMOS
106°58.8W	39°38.2N	11/ 6/73	15°16'22	16-015	-015	ASPEN, CRESTED BUTTE, SAWATCH RANGE, DILLON, VAIL
106°07.4W	39°51.5N	11/ 6/73	15°16'30	16-016	-016	LEADVILLE, ASPEN, SOUTH PARK, ARKANSAS RIV. C30
106°19.6W	43°47.5N	13/ 6/73	13°49'14	16-230	-213	BIG HORN MTS., BUFFALO, POWDER RIVER
106°28.5W	43°50.5N	13/ 6/73	13°49'12	82-147	-	POWDER RIVER BASIN
106°00.2W	43°37.4N	13/ 6/73	13°49'17	82-148	-	POWDER RIVER BASIN
106°55.9W	44°01.8N	13/ 6/73	13°49'06	16-229	-212	BIG HORN MTS., BUFFALO, SHERIDAN
106°55.5W	44°01.8N	13/ 6/73	13°49'06	82-146	-	BIG HORN MTS., BUFFALO
106°38.4W	45°36.8N	9/ 6/73	15°05'02	10-116	-108	LITTLE BIG HORN RIVER, TONGUE RIVER
106°56.2W	45°41.7N	9/ 6/73	15°04'58	81-150	-	BIG HORN RIVER, LITTLE BIG HORN RIVER
106°27.9W	45°32.8N	9/ 6/73	15°05'04	81-151	-	BIG HORN RIVER, LITTLE BIG HORN RIVER
106°30.9W	46°55.2N	10/ 6/73	14°21'35	81-295	-	MONTANA C98
106°01.5W	46°46.2N	10/ 6/73	14°21'41	81-296	-	MONTANA C95
105°39.1W	23°56.2N	2/ 6/73	20°11'59	04-154	-138	DURANGO, SIERRA MADRE OCCIDENTAL C20
105°17.3W	23°35.5N	2/ 6/73	20°12'07	04-155	-139	DURANGO, SIERRA MADRE OCCIDENTAL C15
105°38.4W	28°30.1N	3/ 6/73	19°27'49	04-215	-191	DELICIAS, LAGO TORONTO, RIO CONCHOS
105°15.0W	28°09.1N	3/ 6/73	19°27'57	04-216	-192	DELICIAS, CINDAD CAMAGO, LAGO TORONTO
105°50.3W	32°35.1N	30/ 5/73	20°42'59	04-031	-031	WHITE SANDS, SACRAMENTO MTS. C50
105°24.6W	32°18.6N	30/ 5/73	20°43'07	04-032	-032	SACRAMENTO MTS., GUADALUPE MTS. C50
105°53.9W	32°35.7N	14/ 6/73	14°44'56	04-289	-257	WHITE SANDS, SACRAMENTO MTS.
105°29.2W	32°21.1N	14/ 6/73	14°45'04	04-290	-258	GUADALUPE MTS., SALT BASIN
105°03.2W	32°00.8N	14/ 6/73	14°45'12	04-291	-259	GUADALUPE MTS., EL CAPITAN, SALT BASIN
105°36.8W	35°53.5N	5/ 6/73	17°59'53	10-021	-021	SANGREE DE CRISTO MTS., JEMEZ MTS., SANTA FE
105°09.1W	35°36.4N	5/ 6/73	18°00'01	10-022	-022	SANGREE DE CRISTO MTS., SANTA FE, WAGON MOUND
105°37.9W	35°53.5N	5/ 6/73	17°59'53	81-028	-	SANTA FE, SANGRE DE CRISTO MTS., MORA
105°17.3W	35°40.4N	5/ 6/73	17°59'58	81-029	-	SANGRE DE CRISTO MTS., LAS VEGAS, PECOS RIVER
105°58.2W	36°07.2N	5/ 6/73	17°59'47	81-027	-	LOS ALAMOS, RIO GRANDE RIVER, SANTA FE
105°57.2W	38°51.5N	11/ 6/73	15°16'38	16-017	-017	SAWATCH RANGE, ASPEN, LEADVILLE, DILLON, S. PARK C20
105°26.6W	38°47.1N	11/ 6/73	15°16'46	16-018	-018	S. PARK, COLO. FRONT + SANGRE DE CRISTO RANGES C30
105°42.1W	43°31.8N	13/ 6/73	13°49'22	16-231	-214	POWDER RIVER BASIN, TEAPCT DOME, N. PLATTE RIVER
105°06.5W	43°16.2N	13/ 6/73	13°49'30	16-232	-215	NORTH PLATTE RIVER, OREGON TRAIL
105°32.5W	43°26.2N	13/ 6/73	13°49'23	82-149	-	ANTELOPE CREEK
105°07.8W	43°16.2N	13/ 6/73	13°49'29	82-150	-	ANTELOPE CREEK
105°59.5W	45°23.7N	9/ 6/73	15°05'10	10-117	-109	POWDER RIVER, HANGING WOMAN CREEK
105°22.6W	45°11.5N	9/ 6/73	15°05'18	10-118	-110	POWDER RIVER, LITTLE POWDER RIVER, LITTLE MISSOURI
105°58.9W	45°22.5N	9/ 6/73	15°05'10	81-152	-	LITTLE BIG HORN RIVER, POWDER RIVER
105°31.5W	45°13.8N	9/ 6/73	15°05'16	81-153	-	POWDER RIVER, LITTLE POWDER RIVER
105°03.5W	45°04.3N	9/ 6/73	15°05'22	81-154	-	LITTLE POWDER RIVER, LITTLE MISSOURI RIVER
105°05.0W	46°32.8N	10/ 6/73	14°22'01	10-227	-211	POWDER RIVER C70
105°31.2W	46°40.5N	10/ 6/73	14°21'47	81-297	-	MONTANA C90
105°01.5W	46°32.6N	10/ 6/73	14°21'53	81-298	-	POWDER RIVER C70
104°34.5W	22°51.7N	2/ 6/73	20°12'23	04-157	-141	RIO SANTIAGO, SIERRA MADRE OCCIDENTAL C10
104°13.4W	22°29.5N	2/ 6/73	20°12'31	04-158	-142	RIO SANTIAGO, SIERRA MADRE OCCIDENTAL
104°55.9W	23°14.8N	2/ 6/73	20°12'15	04-156	-140	DURANGO, SIERRA MADRE OCCIDENTAL C15
104°51.6W	27°48.1N	3/ 6/73	19°28'05	04-217	-193	CINDAD CAMAGO, JIMENEZ
104°29.2W	27°28.1N	3/ 6/73	19°28'13	04-218	-194	JIMENEZ, BOLSON DE MAPIMI
104°06.1W	27°07.3N	3/ 6/73	19°28'21	04-219	-195	JIMENEZ
104°58.9W	31°56.4N	30/ 5/73	20°43'15	04-033	-033	GUADALUPE MTS., EL CAPITAN, CARLSBAD CAVERNS C40
104°33.9W	31°38.3N	30/ 5/73	20°43'23	04-034	-034	GUADALUPE MTS., RED BLUFF LAKE, PECOS RIVER C40
104°08.1W	31°19.3N	30/ 5/73	20°43'31	04-035	-035	RED BLUFF LAKE, PECOS C50
104°06.5W	31°14.2N	14/ 6/73	14°45'30	04-292	-260	RED BLUFF LAKE, PECOS, PECOS RIVER, VAN HORN
104°13.7W	34°58.8N	5/ 6/73	18°00'17	10-024	-024	ALAMOGORDO RES., UTE RES., FT. SUMNER
104°17.0W	34°55.5N	5/ 6/73	18°00'16	81-032	-	ALAMOGORDO RES., PECOS RIVER
104°41.7W	35°17.5N	5/ 6/73	18°00'09	10-023	-023	CONCHOS RES., ALAMOGORDO RES., SANTA ROSA
104°58.2W	35°29.8N	5/ 6/73	18°00'04	81-030	-	LAS VEGAS, PECOS RIVER, CONCHAS RES.
104°37.1W	35°13.7N	5/ 6/73	18°00'10	81-031	-	CONCHAS RES., CANADIAN RIVER, SANTA ROSA
104°56.2W	38°28.3N	11/ 6/73	15°16'54	16-019	-019	USAF ACADEMY, SANGRE DE CRISTO RANGE, PIKES PEAK C30
104°27.2W	38°11.8N	11/ 6/73	15°17'02	16-020	-020	ARKANSAS RIVER, PUEBLO, WET MTS. C20
104°15.7W	42°53.8N	13/ 6/73	13°49'41	82-152	-	NIobrara RIVER
104°32.2W	43°02.8N	13/ 6/73	13°49'38	16-233	-216	NORTH PLATTE RIVER, FORT LARAMIE, ANGUSTURA RES.

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OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
104°41.7W	43°05.0N	13/ 6/73	13°49'35	82-151	-	OLD WOMAN CREEK
104°44.7W	44°58.4N	9/ 6/73	15°05'26	10-119	-111	BEAR LODGE MTS, BELLE FOURCHE RIVER, DEVILS TOWER
104°06.8W	44°44.8N	9/ 6/73	15°05'34	10-120	-112	BLACK HILLS, BELLE FOURCHE, LEAD, DEADWOOD
104°35.8W	44°54.6N	9/ 6/73	15°05'28	81-155	-	LITTLE MISSOURI RIVER, DEVILS TOWER
104°08.8W	44°44.8N	9/ 6/73	15°05'34	81-156	-	BLACK HILLS, KEYHOLE RES.
104°25.0W	46°21.0N	10/ 6/73	14°22'09	10-228	-212	POWDER RIVER C60
104°31.9W	46°24.1N	10/ 6/73	14°21'59	81-299	-	POWDER RIVER C60
104°05.2W	46°16.8N	10/ 6/73	14°22'04	81-300	-	LITTLE MISSOURI RIVER C70
103°31.2W	21°44.7N	2/ 6/73	20°12'47	04-160	-144	RIO GRANDE DE SANTIAGO, TEQUILA C10
103°10.1W	21°22.1N	2/ 6/73	20°12'55	04-161	-145	GUADALAJARA, RIO VERDE GRANDE CANYON C20
103°52.3W	22°07.3N	2/ 6/73	20°12'39	04-159	-143	RIO CETENGO, SIERRA MADRE OCCIDENTAL
103°43.4W	26°45.5N	3/ 6/73	19°28'29	04-220	-196	ZARAGOZA, SIERRA DEL TLAHUALILO
103°19.7W	26°21.0N	3/ 6/73	19°28'37	04-221	-197	TORREON, SAN PEDRO
103°43.4W	30°57.2N	30/ 5/73	20°43'39	04-036	-036	PECOS, FORT STOCKTON C60
103°18.7W	30°36.8N	30/ 5/73	20°43'47	04-037	-037	SANTIAGO MTS., SANDERSON C60
103°10.4W	30°25.1N	14/ 6/73	14°45'48	04-293	-261	PECOS RIVER, MARFA C40
103°47.0W	34°39.4N	5/ 6/73	18°00'25	10-025	-025	UTE RES., FT. SUMNER, CLOVIS
103°20.0W	34°19.6N	5/ 6/73	18°00'33	10-026	-026	CLOVIS, MULESHOE, LLANO ESTACADO
103°56.9W	34°45.3N	5/ 6/73	18°00'22	81-033	-	ALAMOGORDO RES., PECOS RIVER TUCUMCAKI
103°36.5W	34°29.2N	5/ 6/73	18°00'28	81-034	-	CLOVIS, PORTALES, LLANO ESTACADO
103°02.5W	34°19.1N	5/ 6/73	18°00'34	81-035	-	CLOVIS, PORTALES, MULESHOE
103°57.2W	37°53.0N	11/ 6/73	15°17'10	16-021	-021	ARKANSAS RIVER, LAJUNTA, ROCK FORD
103°27.6W	37°34.7N	11/ 6/73	15°17'18	16-022	-022	ARKANSAS RIVER, LAJUNTA, PURGATORIE RIVER
103°58.6W	42°48.8N	13/ 6/73	13°49'46	16-234	-217	NORTH PLATTE RIVER, FORT LARAMIE, CHADRON C20
103°24.0W	42°33.7N	13/ 6/73	13°49'54	16-235	-218	NORTH PLATTE RIVER, CHADRON C50
103°51.6W	42°45.0N	13/ 6/73	13°49'47	82-153	-	NIOBRARA RIVER
103°25.9W	42°33.7N	13/ 6/73	13°49'53	82-154	-	NIOBRARA RIVER C40
103°00.6W	42°22.3N	13/ 6/73	13°49'59	82-155	-	NIOBRARA RIVER C80
103°24.3W	44°28.4N	9/ 6/73	15°05'42	10-121	-113	BLACK HILLS, MT. RUSHMORE, LEAD, RAPID CITY
103°54.6W	44°34.1N	9/ 6/73	15°05'40	81-157	-	BLACK HILLS, LEAD, RAPID CITY
103°13.4W	44°24.6N	9/ 6/73	15°05'46	81-158	-	BLACK HILLS, DEADWOOD, RAPID CITY
103°24.0W	44°14.0N	9/ 6/73	15°05'52	81-159	-	RAPID CITY, BADLANDS
103°00.0W	45°57.0N	10/ 6/73	14°22'25	10-230	-214	LITTLE MISSOURI RIVER BOWMAN C40
103°06.5W	45°58.8N	10/ 6/73	14°22'16	81-302	-	BOWMAN C20
103°42.0W	46°07.0N	10/ 6/73	14°22'17	10-229	-213	LITTLE MISSOURI RIVER C50
103°33.2W	46°06.4N	10/ 6/73	14°22'10	81-301	-	FORT DILTS C40
102°49.7W	20°59.5N	2/ 6/73	20°13'03	04-162	-146	GUADALAJARA, LAKE CHAPALA C40
102°28.9W	20°37.1N	2/ 6/73	20°13'11	04-163	-147	GUADALAJARA, LAKE CHAPALA C50
102°08.8W	20°14.5N	2/ 6/73	20°13'19	04-164	-148	LAKE CHAPALA, LAKE PATZCUARO C60
102°57.3W	25°59.6N	3/ 6/73	19°28'45	04-222	-198	TORREON, SAN PEDRO
102°35.8W	25°40.8N	3/ 6/73	19°28'53	04-223	-199	TORREON, SAN PEDRO, PARRAS
102°13.4W	25°19.2N	3/ 6/73	19°29'01	04-224	-200	PARRAS
102°29.6W	29°55.5N	30/ 5/73	20°44'03	04-039	-039	BIG BEND N.P., SERRANIAS DEL BURRO C25
102°05.5W	29°34.5N	30/ 5/73	20°44'11	04-040	-040	RIO GRANDE, AMISTAD LAKE C15
102°15.4W	29°40.8N	14/ 6/73	14°46'06	04-294	-262	BIG BEND COUNTRY C80
102°54.0W	30°15.5N	30/ 5/73	20°43'55	04-038	-038	RIO GRANDE, PECOS RIVER C50
102°53.0W	33°55.8N	5/ 6/73	18°00'41	10-027	-027	CLOVIS, LEVELLAND, LITTLEFIELD
102°26.6W	33°40.2N	5/ 6/73	18°00'49	10-028	-028	LUBBOCK, LEVELLAND, BROWNFIELD, LLANO ESTACADO
102°38.1W	33°48.0N	5/ 6/73	18°00'45	81-037	-	LITTLEFIELD, LEVELLAND
102°18.7W	33°33.5N	5/ 6/73	18°00'51	81-038	-	LUBBOCK, LEVELLAND, LITTLEFIELD
102°57.6W	34°02.5N	5/ 6/73	18°00'40	81-036	-	LLANO ESTACADO, MULESHOE, CLOVIS, LITTLEFIELD
102°29.6W	36°58.3N	11/ 6/73	15°17'34	16-024	-024	CIMMARON RIVER, CANADIAN RIVER, KS-CO-TX-NM-OK
102°00.6W	36°39.5N	11/ 6/73	15°17'42	16-025	-025	CIMMARON RIVER, CANADIAN RIVER, DALLAS-TX-OK PANHANDLE
102°58.3W	37°16.4N	11/ 6/73	15°17'26	16-023	-023	CIMMARON RIVER, CANADIAN RIVER, SPRINGFIELD
102°09.8W	41°58.5N	13/ 6/73	13°50'11	82-157	-	NEBRASKA C100
102°50.0W	42°18.3N	13/ 6/73	13°50'02	16-236	-219	NORTH PLATTE RIVER, CHADRON C60
102°15.7W	42°02.7N	13/ 6/73	13°50'10	16-237	-220	NEBRASKA UNDER CLOUDS C100
102°34.5W	42°10.1N	13/ 6/73	13°50'05	82-156	-	NEBRASKA C100
102°54.6W	44°18.3N	9/ 6/73	15°05'50	10-122	-114	BLACK HILLS, MT. RUSHMORE, RAPID CITY, BADLANDS
102°17.7W	44°04.0N	9/ 6/73	15°05'58	10-123	-115	BADLANDS, CHEYENNE RIVER, WHITE RIVER
102°19.0W	44°04.0N	9/ 6/73	15°05'58	81-160	-	BADLANDS
102°20.0W	45°43.0N	10/ 6/73	14°22'33	10-231	-215	BOWMAN C40
102°38.5W	45°50.3N	10/ 6/73	14°22'22	81-303	-	BOWMAN C30
102°10.1W	45°41.2N	10/ 6/73	14°22'28	81-304	-	HETTINGER C40
101°51.0W	24°54.7N	3/ 6/73	19°29'09	04-225	-201	CONCEPCION DEL ORO
101°28.6W	24°32.6N	3/ 6/73	19°29'17	04-226	-202	CONCEPCION DEL ORO
101°07.2W	24°10.5N	3/ 6/73	19°29'25	04-227	-203	CONCEPCION DEL ORO, EL CEDREL
101°17.7W	28°53.6N	30/ 5/73	20°44'27	04-042	-042	AMISTAD LAKE, DEL RIO, EAGLE PASS

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
101°21.7W	28°54.5N	14/ 6/73	14:46:24	04-295	-263	CLOUDSC 100
101°41.5W	29°13.3N	30/ 5/73	20:44:19	04-041	-041	AMISTAD LAKE, DEL RIO, SERRANIAS DEL BURRO
101°07.8W	32°40.2N	5/ 6/73	18:01:13	10-031	-031	BIG SPRINGS, SWEETWATER, SNYDER C15
101°21.0W	32°45.6N	5/ 6/73	18:01:09	81-041	-	CAPROCK ESCARPMENT, LAKE THOMAS C20
101°01.9W	32°35.6N	5/ 6/73	18:01:15	81-042	-	SWEETWATER, COLORADO CITY C30
101°59.9W	33°20.2N	5/ 6/73	18:00:57	10-029	-029	LUBBOCK, BROWNFIELD, LA MESA
101°33.9W	33°00.5N	5/ 6/73	18:01:05	10-030	-030	LUBBOCK, LA MESA, BIG SPRINGS, SNYDER
101°59.3W	33°15.6N	5/ 6/73	18:00:57	81-039	-	LUBBOCK, POST, BROWNFIELD
101°40.1W	33°04.5N	5/ 6/73	18:01:03	81-040	-	LLANO ESTACADO, CAPROCK ESCARPMENT
101°31.9W	36°20.7N	11/ 6/73	15:17:50	16-026	-026	CANADIAN RIVER, BORGER, SANFORD RES.
101°03.2W	36°01.5N	11/ 6/73	15:17:58	16-027	-027	CANADIAN RIVER, BORGER, SANFORD RES.
101°42.8W	41°47.2N	13/ 6/73	13:50:18	16-238	-221	NEBRASKA C10C
101°09.5W	41°31.2N	13/ 6/73	13:50:26	16-239	-222	NEBRASKA C10C
101°44.8W	41°47.2N	13/ 6/73	13:50:17	82-158	-	NEBRASKA C10C
101°20.4W	41°35.7N	13/ 6/73	13:50:23	82-159	-	NEBRASKA C10C
101°41.8W	43°50.6N	5/ 6/73	15:06:06	10-124	-116	BADLANDS, WHITE RIVER, NIOBRARA RIV., SAN HILLS
101°06.5W	43°36.6N	5/ 6/73	15:06:14	10-125	-117	BADLANDS, WHITE RIVER, NIOBRARA RIV., SAN HILLS
101°52.3W	43°53.4N	5/ 6/73	15:06:04	81-161	-	BADLANDS WHITE RIVER
101°23.3W	43°40.7N	5/ 6/73	15:06:09	81-162	-	BADLANDS WHITE RIVER
101°11.8W	45°22.2N	10/ 6/73	14:22:41	10-232	-216	LEMMON C60
101°41.8W	45°32.6N	10/ 6/73	14:22:34	81-305	-	HETTINGER C70
101°13.4W	45°22.6N	10/ 6/73	14:22:40	81-306	-	SOUTH DAKOTA, FORT CANNONBALL RIVER C60
100°45.1W	23°48.6N	3/ 6/73	19:29:33	04-228	-204	EL CEDREL, MATAKUALA
100°24.0W	23°26.6N	3/ 6/73	19:29:41	04-229	-205	SIERRA MADRE ORIENTAL, CERRO PENA NEVADA
100°02.3W	23°04.4N	3/ 6/73	19:29:49	04-230	-206	CERRO PENA NEVADA
100°07.2W	27°56.6N	30/ 5/73	20:44:51	04-045	-045	LAREDO, NUEVO LAREDO, RIO GRANDE
100°54.0W	28°31.2N	30/ 5/73	20:44:35	04-043	-043	RIO GRANDE, EAGLE PASS
100°30.3W	28°10.6N	30/ 5/73	20:44:43	04-044	-044	RIO GRANDE, DON MARTIN LAKE, SABINAS
100°28.6W	28°07.2N	14/ 6/73	14:46:42	04-296	-264	SERRANIAS DEL BURRO C90
100°16.4W	31°55.6N	5/ 6/73	18:01:29	10-033	-033	SWEETWATER, SAN ANGELO C6C
100°05.6W	31°50.6N	5/ 6/73	18:01:32	81-045	-	SAN ANGELO, BALLINGER C70
100°42.1W	32°20.2N	5/ 6/73	18:01:21	10-032	-032	BIG SPRINGS, SWEETWATER C40
100°43.1W	32°20.2N	5/ 6/73	18:01:21	81-043	-	SWEETWATER, COLORADO CITY C40
100°24.3W	32°05.5N	5/ 6/73	18:01:27	81-044	-	SWEETWATER, SAN ANGELO C60
100°35.5W	35°43.2N	11/ 6/73	15:18:06	16-028	-028	CANADIAN RIVER, PAMPA, SHAMROCK
100°07.9W	35°24.6N	11/ 6/73	15:18:14	16-029	-029	PAMPA, CANADIAN RIVER, RED RIVER C20
100°01.6W	40°55.6N	13/ 6/73	13:50:42	16-241	-224	NEBRASKA UNDER CLOUDS C5C
100°05.2W	40°57.2N	13/ 6/73	13:50:41	82-162	-	NEBRASKA C90
100°35.9W	41°14.6N	13/ 6/73	13:50:34	16-240	-223	NEBRASKA C10C
100°55.6W	41°23.6N	13/ 6/73	13:50:29	82-160	-	NEBRASKA C10C
100°30.3W	41°10.6N	13/ 6/73	13:50:35	82-161	-	NEBRASKA C10C
100°33.2W	43°23.6N	5/ 6/73	15:06:22	10-126	-118	SAND HILLS, WHITE RIV., NIOBRARA RIV. FT RANDALL RES
100°59.3W	43°33.2N	5/ 6/73	15:06:15	81-163	-	BADLANDS WHITE RIVER
100°34.2W	43°22.6N	5/ 6/73	15:06:21	81-164	-	WHITE RIVER, SAND HILLS
100°04.9W	43°08.6N	5/ 6/73	15:06:27	81-165	-	SAND HILLS, NIOBRARA RIVER
100°35.2W	45°08.4N	10/ 6/73	14:22:49	10-233	-217	DAHE RES. C80
100°47.4W	45°11.5N	10/ 6/73	14:22:46	81-307	-	FORT CANNONBALL RIVER C90
100°14.1W	45°01.5N	10/ 6/73	14:22:52	81-308	-	DAHE RESERVOIR C80
99°40.9W	22°41.5N	3/ 6/73	19:29:57	04-231	-207	CINCO MANTO, SIERRA MADRE ORIENTAL
99°19.7W	22°19.8N	3/ 6/73	19:30:05	04-232	-208	CINCO MANTO, VALLES RIO TAMUIN
99°43.8W	27°28.6N	30/ 5/73	20:44:59	04-046	-046	LAKECO, NUEVO LAREDO, RIO GRANDE
99°20.7W	27°05.5N	30/ 5/73	20:45:07	04-047	-047	LAREDO, FALCON RESERVOIR
99°36.2W	27°17.5N	14/ 6/73	14:47:00	04-297	-265	NUEVA ROSITA C80
99°01.0W	30°58.5N	5/ 6/73	18:01:53	10-036	-036	TEXAS HILL COUNTRY C80
99°51.1W	31°39.8N	5/ 6/73	18:01:37	10-034	-034	SAN ANGELO C90
99°25.7W	31°19.2N	5/ 6/73	18:01:45	10-035	-035	TEXAS HILL COUNTRY C90
99°47.1W	31°35.6N	5/ 6/73	18:01:38	81-046	-	BALLINGER, COLORADO RIVER C80
99°28.6W	31°20.6N	5/ 6/73	18:01:44	81-047	-	BRACY C90
99°10.2W	31°05.6N	5/ 6/73	18:01:50	81-048	-	BRADY LLANO RIVER C8C
99°12.5W	34°45.3N	11/ 6/73	15:18:30	16-031	-031	RED RIVER, VERNON, WICHITA MTS. C30
99°39.8W	35°04.8N	11/ 6/73	15:18:22	16-030	-030	RED RIVER, ALTUS, ELK CITY C20
99°30.0W	40°41.1N	13/ 6/73	13:50:50	16-242	-225	PLATTE RIVER, KEARNEY C7C
99°42.8W	40°48.6N	13/ 6/73	13:50:47	82-163	-	NEBRASKA C80
99°16.8W	40°32.4N	13/ 6/73	13:50:53	82-164	-	PLATTE RIVER C60
99°18.4W	42°45.3N	5/ 6/73	15:06:38	10-128	-120	SAND HILLS, NIOBRARA RIVER, FT. RANDALL
99°40.8W	42°59.4N	5/ 6/73	15:06:33	81-166	-	SAND HILLS, NIOBRARA RIVER
99°12.8W	42°46.2N	5/ 6/73	15:06:39	81-167	-	SAND HILLS, NIOBRARA RIVER
99°55.3W	43°06.3N	5/ 6/73	15:06:30	10-127	-119	SAND HILLS, WHITE RIV., NIOBRARA RIV. FT RANDALL RES

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
99°57.3W	44°57.2N	10/ 6/73	14°22'56	10-234	-218	DAHE RES. PIERRE C80
99°19.7W	44°43.5N	10/ 6/73	14°23'04	10-235	-219	DAHE DAM PIERRE C80
99°49.7W	44°53.7N	10/ 6/73	14°22'58	81-309	-	DAHE RESERVOIR C50
99°22.0W	44°44.4N	10/ 6/73	14°23'04	81-310	-	GETTYSBURG C50
98°58.6W	21°57.4N	3/ 6/73	19°30'13	04-233	-209	CINDAD MANTE, VALLES, SIERRA MADRE ORIENTAL C20
98°37.0W	21°35.1N	3/ 6/73	19°30'21	04-234	-210	VALLES, LAGUNA TAMIAHUA, RIO TEMPOOL C25
98°17.1W	21°12.4N	3/ 6/73	19°30'29	04-235	-211	TUXPAN, GULF OF MEXICO C30
98°58.3W	26°44.6N	30/ 5/73	20°45'15	04-048	-048	FALCON AND AZUCAR RESERVOIRS
98°35.6W	26°22.9N	30/ 5/73	20°45'23	04-049	-049	FALCON RESERVOIR, MCALLEN, REYNOSA
98°12.8W	26°01.1N	30/ 5/73	20°45'31	04-050	-050	REYNOSA, FARLINGTON, BROWNSVILLE C10
98°44.1W	26°29.1N	14/ 6/73	14°47'18	04-298	-266	SABINAS HIDALGO C80
98°27.7W	26°12.5N	14/ 6/73	14°47'24	81-382	-	TEXAS C80
98°35.9W	30°38.4N	5/ 6/73	18°02'01	10-037	-037	TEXAS HILL COUNTRY, AUSTIN C75
98°11.5W	30°17.5N	5/ 6/73	18°02'09	10-038	-038	TEXAS HILL COUNTRY, AUSTIN GUADALUPE RIO C70
98°52.1W	30°50.5N	5/ 6/73	18°01'56	81-049	-	BUCHANAN LAKE, LAKE LBJ, LLANO C75
98°33.9W	30°35.3N	5/ 6/73	18°02'02	81-050	-	BUCHANAN LAKE, LAKE LBJ, COLORADO RIVER C70
98°15.8W	30°20.2N	5/ 6/73	18°02'08	81-051	-	AUSTIN, COLORADO RIVER, LAKE LBJ C70
98°45.8W	34°26.2N	11/ 6/73	15°18'38	16-032	-032	RED RIVER, VERNON, WICHITA MTS. LAWTON C35
98°18.8W	34°06.6N	11/ 6/73	15°18'46	16-033	-033	LAWTON, WICHITA FALLS, WICHITA MTS. RED RIV. C30
98°07.6W	39°57.5N	13/ 6/73	13°51'10	82-167	-	KANSAS C70
98°57.3W	40°23.1N	13/ 6/73	13°50'58	16-243	-226	PLATTE RIVER, KEARNEY C&C
98°26.0W	40°07.2N	13/ 6/73	13°51'06	16-244	-227	PLATTE RIVER, HARLAN COUNTY RES. C60
98°53.7W	40°21.2N	13/ 6/73	13°50'58	82-165	-	PLATTE RIVER HARLAN COUNTY RES. C50
98°29.6W	40°07.8N	13/ 6/73	13°51'04	82-166	-	PLATTE RIVER C50
98°43.8W	42°34.2N	9/ 6/73	15°06'46	10-129	-121	SAND HILLS, NIOBRARA RIVER, FT. RANDALL
98°09.9W	42°19.4N	9/ 6/73	15°06'54	10-130	-122	SAND HILLS, NIOBRARA RIVER, FT. RANDALL
98°47.4W	42°35.1N	9/ 6/73	15°06'45	81-168	-	SAND HILLS, NIOBRARA RIVER O'NEILL
98°22.1W	42°23.8N	9/ 6/73	15°06'51	81-169	-	SAND HILLS, NIOBRARA RIVER O'NEILL
98°39.2W	44°27.5N	10/ 6/73	14°23'13	10-236	-220	DAHE DAM PIERRE C80
98°02.9W	44°14.4N	10/ 6/73	14°23'21	10-237	-221	FRANCIS CASE RES. C7C
98°54.0W	44°33.6N	10/ 6/73	14°23'10	81-311	-	GETTYSBURG C50
98°24.4W	44°21.6N	10/ 6/73	14°23'16	81-312	-	HURON C90
98°50.1W	47°24.4N	12/ 6/73	12°56'12	16-138	-130	SHEYENNE RIV., BALDHILL RES.
97°58.0W	20°51.5N	3/ 6/73	19°30'36	04-236	-212	TUXPAN, POZA RICA, TULANCINGO C35
97°35.6W	20°27.2N	3/ 6/73	19°30'45	04-237	-213	POZA RICA, TULANCINGO, TEZUITLAN C40
97°15.5W	20°04.6N	3/ 6/73	19°30'53	04-238	-214	JALAPA, VAL. COFREDE PEROTE C50
97°05.9W	24°55.7N	30/ 5/73	20°45'55	04-053	-053	MOUTH OF RIO GRANDE, LAGUNA MADRE, GULF OF MEXICO
97°04.0W	24°51.2N	14/ 6/73	14°47'54	04-300	-268	GULF OF MEXICO, LAGUNA MADRE C80
97°50.8W	25°39.7N	30/ 5/73	20°45'39	04-051	-051	BROWNSVILLE, MATAMOROS, MOUTH OF RIO GRANDE
97°28.3W	25°17.6N	30/ 5/73	20°45'47	04-052	-052	BROWNSVILLE, SHIP CANAL, MATAMOROS, MOUTH OF RIO GRANDE
97°53.7W	25°40.3N	14/ 6/73	14°47'36	04-299	-267	LAGUNA MADRE, MOUTH OF RIO GRANDE C80
97°52.1W	25°37.5N	14/ 6/73	14°47'36	81-383	-	MEXICO C85
97°16.5W	25°02.5N	14/ 6/73	14°47'49	81-384	-	MEXICO, LAGUNA MADRE, MADRE ISLAND C50
97°47.5W	29°56.5N	5/ 6/73	18°02'17	10-039	-039	AUSTIN, GONZALES, SAN MARCOS C60
97°22.1W	29°32.5N	5/ 6/73	18°02'25	10-040	-040	AUSTIN, GONZALES, SAN MARCOS C60
97°40.2W	29°46.7N	5/ 6/73	18°02'19	81-053	-	AUSTIN, COLORADO RIVER, LOCKHART C70
97°21.4W	29°31.4N	5/ 6/73	18°02'25	81-054	-	CUERO, LULING, GUADALUPE RIVER C70
97°04.3W	29°16.7N	5/ 6/73	18°02'31	81-055	-	CUERO, VICTORIA, GUADALUPE RIVER C70
97°58.0W	30°05.4N	5/ 6/73	18°02'13	81-052	-	AUSTIN, COLORADO RIVER, LAKE TRAVIS C70
97°51.7W	33°46.6N	11/ 6/73	15°18'56	16-034	-034	WICHITA FALLS C25
97°25.4W	33°26.5N	11/ 6/73	15°19'02	16-035	-035	DECATUR, BOWIE C75
97°54.4W	39°50.5N	13/ 6/73	13°51'14	16-245	-228	KANSAS C80
97°23.4W	39°34.4N	13/ 6/73	13°51'22	16-246	-229	KANSAS C80
97°43.8W	39°44.7N	13/ 6/73	13°51'16	82-168	-	KANSAS C80
97°20.8W	39°32.2N	13/ 6/73	13°51'22	82-169	-	KANSAS C90
97°02.3W	41°47.7N	9/ 6/73	15°07'10	10-132	-124	MISSOURI RIVER, PLATTE RIVER, FREMONT
97°06.6W	41°49.4N	9/ 6/73	15°07'09	81-172	-	NORFOLK, ELKHORN RIVER, PLATTE RIVER
97°35.9W	42°03.2N	5/ 6/73	15°07'02	10-131	-123	LEWIS & CLARK RES., PLATTE RIV., LONG RIV. NORFOLK
97°56.7W	42°12.2N	5/ 6/73	15°06'57	81-170	-	SAND HILLS, ELKHORN RIVER, NORFOLK
97°31.6W	42°00.7N	5/ 6/73	15°07'03	81-171	-	NORFOLK, ELKHORN RIVER, MADISON
97°04.0W	43°50.6N	10/ 6/73	14°23'33	81-315	-	SIOUX FALLS C40
97°27.7W	44°00.6N	10/ 6/73	14°23'28	10-238	-222	MITCHELL C70
97°57.7W	44°11.7N	10/ 6/73	14°23'22	81-313	-	MITCHELL C90
97°30.6W	44°01.3N	10/ 6/73	14°23'27	81-314	-	MITCHELL C70
97°21.4W	47°03.4N	12/ 6/73	12°56'30	16-139	-131	FARCC, MOORHEAD, RED RIVER OF THE NORTH
96°14.5W	18°56.6N	3/ 6/73	19°31'17	04-241	-217	VERACRUZ, CORDOBA, GULF OF MEXICO C45
96°54.7W	19°42.1N	3/ 6/73	19°31'01	04-239	-215	ORIZABA, ORIZABA VOLCANO, JALAPA C50
96°34.3W	19°19.2N	3/ 6/73	19°31'09	04-240	-216	VERACRUZ, JALAPA, ORIZABA C50
96°44.2W	24°34.1N	30/ 5/73	20°46'03	04-054	-054	LAGUNA MADRE, GULF OF MEXICO

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
96°14.8W	24°01.6N	14/ 6/73	14'48'12	04-301	-269	GULF OF MEXICO, C80
96°34.6W	28°51.5N	5/ 6/73	18'02'41	10-042	-042	VICTORIA, MATAGORDA BAY, SAN ANTONIO BAY C60
96°11.2W	28°30.6N	5/ 6/73	18'02'49	10-043	-043	MATAGORDA BAY, PORT LAVACA, MATAGORDA ISLAND C40
96°29.0W	28°45.5N	5/ 6/73	18'02'43	81-057	-	MATAGORDA BAY, SAN ANTONIO BAY, MATAGORDA IS. C40
96°11.9W	28°30.4N	5/ 6/73	18'02'49	81-058	-	MATAGORDA ISLAND, GULF OF MEXICO C20
96°58.7W	29°12.8N	5/ 6/73	18'02'33	10-041	-041	CUERO, LULING, VICTORIA C60
96°46.5W	29°01.4N	5/ 6/73	18'02'37	81-056	-	VICTORIA, MATAGORDA BAY, PORT LAVACA C60
96°33.3W	32°47.3N	11/ 6/73	15'19'18	16-037	-037	DALLAS-FORT WORTH C75
96°07.3W	32°27.1N	11/ 6/73	15'19'26	16-038	-038	CEDAR CREEK RES. C80
96°13.0W	32°30.6N	11/ 6/73	15'19'24	82-001	-	LOUISIANA C95
96°59.3W	33°07.4N	11/ 6/73	15'19'10	16-036	-036	DALLAS-FORT WORTH C75
96°21.4W	38°55.6N	13/ 6/73	13'51'38	16-248	-231	KANSAS C90
96°11.9W	38°53.5N	13/ 6/73	13'51'40	82-172	-	KANSAS C90
96°51.1W	39°15.1N	13/ 6/73	13'51'30	16-247	-230	KANSAS C90
96°57.4W	39°19.2N	13/ 6/73	13'51'28	82-170	-	KANSAS C90
96°35.0W	39°06.6N	13/ 6/73	13'51'34	82-171	-	KANSAS C90
96°28.7W	41°31.7N	9/ 6/73	15'07'18	10-133	-125	OMAHA, MISSOURI RIV., PLATTE RIV. COUNCIL BLUFFS
96°41.9W	41°37.1N	9/ 6/73	15'07'15	81-173	-	ELKHORN RIVER, PLATTE RIVER, COLUMBUS
96°17.2W	41°25.3N	9/ 6/73	15'07'21	81-174	-	OMAHA, MISSOURI RIVER, PLATTE RIVER
96°52.1W	43°46.6N	10/ 6/73	14'23'36	10-239	-223	SIOUX FALLS C50
96°16.2W	43°32.2N	10/ 6/73	14'23'44	10-240	-224	SIOUX FALLS C20
96°37.3W	43°40.2N	10/ 6/73	14'23'39	81-316	-	SIOUX FALLS
96°10.9W	43°25.5N	10/ 6/73	14'23'45	81-317	-	SIOUX FALLS
95°14.5W	17°48.2N	3/ 6/73	19°31'41	04-244	-220	ISTHMUS OF TEHUANTEPEC, RIO CHIQUITO L50
95°54.1W	18°23.5N	3/ 6/73	19°31'25	04-242	-218	VERACRUZ, TIERRA BLANCA C40
95°34.3W	18°10.6N	3/ 6/73	19°31'33	04-243	-219	MINATITLAN, JESUS GARRANZA C40
95°26.4W	23°12.0N	14/ 6/73	14'48'30	04-302	-270	GULF OF MEXICO, C60
95°24.1W	27°46.1N	5/ 6/73	18'03'05	10-045	-045	GULF OF MEXICO, SEA STATE
95°00.7W	27°26.5N	5/ 6/73	18'03'13	10-046	-046	GULF OF MEXICO, SEA STATE
95°37.3W	27°59.3N	5/ 6/73	18'03'00	81-060	-	GULF OF MEXICO, SEA STATE
95°20.1W	27°43.6N	5/ 6/73	18'03'06	81-061	-	GULF OF MEXICO, SEA STATE
95°03.3W	27°27.5N	5/ 6/73	18'03'12	81-062	-	GULF OF MEXICO, SEA STATE
95°47.2W	28°09.1N	5/ 6/73	18'02'57	10-044	-044	MATAGORDA ISLAND, MATAGORDA BAY, PASS CAVALLO C40
95°54.4W	28°14.5N	5/ 6/73	18'02'55	81-059	-	GULF OF MEXICO, SEA STATE
95°14.2W	31°42.6N	11/ 6/73	15'19'42	16-040	-040	TEXAS C95
95°13.5W	31°41.1N	11/ 6/73	15'19'42	82-004	-	GULF OF MEXICO C100
95°41.6W	32°06.6N	11/ 6/73	15'19'34	16-039	-039	CEDAR CREEK RES. C50
95°53.1W	32°15.2N	11/ 6/73	15'19'30	82-002	-	LOUISIANA, SENSITOMETRIC WEDGE C98
95°34.0W	32°00.2N	11/ 6/73	15'19'36	82-003	-	LOUISIANA C95
95°51.4W	38°42.3N	13/ 6/73	13'51'46	16-249	-232	EMPORIA, OTTAWA C75
95°20.5W	38°23.5N	13/ 6/73	13'51'54	16-250	-233	BURLINGTON, OTTAWA C70
95°49.1W	38°40.5N	13/ 6/73	13'51'46	82-173	-	KANSAS C80
95°26.7W	38°27.2N	13/ 6/73	13'51'52	82-174	-	KANSAS C70
95°03.0W	38°11.6N	13/ 6/73	13'51'58	82-175	-	KANSAS C50
95°22.8W	40°55.2N	9/ 6/73	15'07'34	10-135	-127	OMAHA, PLATTE RIVER, MISSOURI RIV., NEBRASKA CITY
95°04.0W	40°45.6N	9/ 6/73	15'07'39	81-177	-	RED OAK, CLARINDA, NISHNOBOTNA RIVER
95°56.1W	41°15.7N	9/ 6/73	15'07'26	10-134	-126	OMAHA, LINCOLN, MISSOURI RIVER, PLATTE RIVER
95°52.4W	41°13.4N	9/ 6/73	15'07'27	81-175	-	OMAHA, MISSOURI RIVER, PLATTE RIVER
95°28.4W	41°01.2N	9/ 6/73	15'07'33	81-176	-	OMAHA, COUNCIL BLUFFS, MISSOURI RIVER
95°41.2W	43°18.6N	10/ 6/73	14'23'52	10-241	-225	SIOUX FALLS WORTHINGTON, SIOUX CENTER
95°06.0W	43°03.2N	10/ 6/73	14'24'00	10-242	-226	SIOUX CENTER, SIOUX RAPIDS, STORN LAKE
95°44.9W	43°18.6N	10/ 6/73	14'23'51	81-318	-	LUVERNE, MINN. ROCK RAPIDS, IOWA
95°18.8W	43°07.6N	10/ 6/73	14'23'57	81-319	-	ROCK RAPIDS, SIOUX CENTER
95°55.4W	46°38.1N	12/ 6/73	12'56'48	16-140	-132	FARGO, MOORHEAD, FERGUS FALLS, PARK RAPIDS
95°08.6W	46°30.3N	12/ 6/73	12'56'56	16-141	-133	LITTLE FALLS, BRAINERD, ALEXANDRIA, MISS. R.
94°15.9W	16°35.5N	3/ 6/73	19°32'05	04-247	-223	PACIFIC OCEAN, MAR MUERTO C50
94°55.1W	17°25.3N	3/ 6/73	19°31'49	04-245	-221	GULFS OF MEXICO AND TEHUANTEPEC C60
94°35.0W	17°02.2N	3/ 6/73	19°31'57	04-246	-222	GULF OF TEHUANTEPEC, UNION HIDALGO C70
94°37.9W	22°21.4N	14/ 6/73	14'48'48	04-303	-271	GULF OF MEXICO, C40
94°14.9W	26°43.5N	5/ 6/73	18'03'29	10-048	-048	GULF OF MEXICO, SEA STATE
94°29.4W	26°56.5N	5/ 6/73	18'03'24	81-064	-	GULF OF MEXICO, SEA STATE
94°12.9W	26°40.7N	5/ 6/73	18'03'30	81-065	-	GULF OF MEXICO, SEA STATE
94°37.9W	27°05.2N	5/ 6/73	18'03'21	10-047	-047	GULF OF MEXICO, SEA STATE
94°46.5W	27°12.1N	5/ 6/73	18'03'18	81-063	-	GULF OF MEXICO, SEA STATE
94°18.8W	30°58.5N	11/ 6/73	15°20'00	82-007	-	GULF OF MEXICO C100
94°49.5W	31°22.3N	11/ 6/73	15°19'50	16-041	-041	EAST TEXAS C100

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
94°26.1W	31°06.3N	11/ 6/73	15°19'58	16-042	-042	EAST TEXAS C100
94°54.4W	31°24.4N	11/ 6/73	15°19'48	82-005	-	GULF OF MEXICO C100
94°37.6W	31°14.4N	11/ 6/73	15°19'54	82-006	-	GULF OF MEXICO C100
94°21.3W	37°46.4N	13/ 6/73	13°52'10	16-252	-235	PITTSBURG, JOPLIN C40
94°21.3W	37°46.4N	13/ 6/73	13°52'10	82-177	-	KANSAS-MISSOURI C50
94°50.8W	38°06.5N	13/ 6/73	13°52'02	16-251	-234	PITTSBURG, CFANUTE, OTTAWA C40
94°42.2W	38°06.6N	13/ 6/73	13°52'04	82-176	-	KANSAS C50
94°50.8W	40°43.1N	5/ 6/73	15°07'42	10-136	-128	MISSOURI RIVER, RED OAK, CRESTON
94°19.2W	40°27.4N	9/ 6/73	15°07'50	10-137	-129	MISSOURI RIVER, CRESTON, MARYVILLE
94°39.9W	40°36.4N	5/ 6/73	15°07'44	81-178	-	CLARINCA, VILLISCA
94°16.5W	40°25.4N	9/ 6/73	15°07'50	81-179	-	BEEDFORD, 102 RIVER
94°31.0W	42°48.4N	10/ 6/73	14°24'08	10-243	-227	STORM LAKE, LITTLE SIOLX RIVER
94°52.8W	42°56.7N	10/ 6/73	14°24'03	81-320	-	SHELDON, PAULINA
94°27.1W	42°45.7N	10/ 6/73	14°24'09	81-321	-	FORT DODGE, FUMBOLDT
94°01.7W	42°34.5N	10/ 6/73	14°24'15	81-322	-	FORT DODGE, DES MOINES RIVER
94°29.7W	46°14.2N	12/ 6/73	12°57'04	16-142	-134	LITTLE FALLS, BRAINERD, MILLE LACS LAKE C20
93°37.0W	15°53.3N	3/ 6/73	19°32'21	04-250	-225	PACIFIC OCEAN, MAR MUERTO C70
93°17.2W	15°29.5N	3/ 6/73	19°32'29	04-259	-226	PACIFIC OCEAN, SIERRA SOCONUSCO C80
93°56.1W	16°16.2N	3/ 6/73	19°32'13	04-248	-224	PACIFIC OCEAN, TONALA, MAR MUERTO C60
93°04.3W	20°40.6N	14/ 6/73	14°49'24	04-305	-273	GULF OF MEXICO, C25
93°50.8W	21°31.2N	14/ 6/73	14°49'06	04-304	-272	GULF OF MEXICO, C25
93°07.3W	25°36.4N	5/ 6/73	18°03'53	10-051	-051	GULF OF MEXICO
93°15.8W	25°49.7N	5/ 6/73	18°03'49	81-067	-	GULF OF MEXICO, OVEREXPOSED
93°03.4W	25°33.7N	5/ 6/73	18°03'54	81-068	-	GULF OF MEXICO, OVEREXPOSED
93°52.1W	26°21.5N	5/ 6/73	18°03'37	10-049	-049	GULF OF MEXICO, SEA STATE
93°29.7W	26°00.4N	5/ 6/73	18°03'45	10-050	-050	GULF OF MEXICO, SEA STATE
93°36.3W	26°05.7N	5/ 6/73	18°03'43	81-066	-	GULF OF MEXICO, SEA STATE
93°02.7W	29°53.6N	11/ 6/73	15°20'25	82-010	-	GULF OF MEXICO C100
93°59.7W	30°41.5N	11/ 6/73	15°20'06	82-008	-	GULF OF MEXICO C100
93°41.6W	30°26.6N	11/ 6/73	15°20'12	82-009	-	GULF OF MEXICO C100
93°51.1W	37°30.1N	13/ 6/73	13°52'18	16-253	-236	PITTSBURG, JOPLIN C50
93°22.5W	37°12.1N	13/ 6/73	13°52'26	16-254	-237	JOPLIN, BOSTON MTS. C50
93°58.1W	37°33.7N	13/ 6/73	13°52'16	82-178	-	MISSOURI, NEAR JOPLIN C50
93°36.3W	37°20.1N	13/ 6/73	13°52'22	82-179	-	MISSOURI, C50
93°14.9W	37°06.5N	13/ 6/73	13°52'28	82-180	-	MISSOURI, C60
93°14.6W	39°52.5N	9/ 6/73	15°08'06	10-139	-131	MISSOURI RIVER, GRAND RIVER, CHILLICOTHE
93°29.1W	39°59.4N	9/ 6/73	15°08'02	81-181	-	TRENTON, CHILLICOTHE, GRAND RIVER
93°05.3W	39°46.7N	9/ 6/73	15°08'08	81-182	-	CHILLICOTHE, BROOKFIELD
93°46.5W	40°05.6N	9/ 6/73	15°07'58	10-138	-130	MISSOURI RIVER, CHILLICOTHE, TRENTON
93°52.5W	40°11.5N	9/ 6/73	15°07'56	81-180	-	LAMONI, IOWA BETHANY, MO.
93°56.8W	42°33.4N	10/ 6/73	14°24'16	10-244	-228	FORT DODGE, DES MOINES RIVER
93°22.5W	42°17.5N	10/ 6/73	14°24'24	10-245	-229	DES MOINES, FORT DODGE, AMES
93°36.0W	42°23.1N	10/ 6/73	14°24'21	81-323	-	FORT DODGE, AMES
93°10.9W	42°11.6N	10/ 6/73	14°24'27	81-324	-	AMES, MARSHALLTOWN
93°11.3W	45°50.1N	12/ 6/73	12°57'20	16-144	-136	MILLE LACS, SANDSTONEC60
93°49.8W	46°01.8N	12/ 6/73	12°57'12	16-143	-135	MILLE LACS, LAKE BRAINERD C40
92°39.0W	14°43.6N	3/ 6/73	19°32'45	04-252	-228	PACIFIC OCEAN AND COAST C95
92°19.5W	14°20.2N	3/ 6/73	19°32'53	04-253	-229	TOTAL CLOUD COVER C100
92°57.8W	15°06.5N	3/ 6/73	19°32'37	04-251	-227	PACIFIC OCEAN, CLOUDS AT MEX-GUATEMALA BORDER C90
92°18.2W	19°49.6N	14/ 6/73	14°49'42	04-306	-274	GULF OF MEXICO, C10
92°23.2W	24°54.5N	5/ 6/73	18°04'09	10-053	-053	GULF OF MEXICO
92°01.1W	24°32.5N	5/ 6/73	18°04'17	10-054	-054	GULF OF MEXICO
92°14.6W	24°45.6N	5/ 6/73	18°04'12	81-071	-	GULF OF MEXICO, OVEREXPOSED
92°45.6W	25°17.1N	5/ 6/73	18°04'01	10-052	-052	GULF OF MEXICO
92°46.9W	25°17.4N	5/ 6/73	18°04'00	81-069	-	GULF OF MEXICO, OVEREXPOSED
92°30.7W	25°01.6N	5/ 6/73	18°04'06	81-070	-	GULF OF MEXICO, OVEREXPOSED
92°24.5W	29°20.5N	11/ 6/73	15°20'37	82-011	-	GULF OF MEXICO C100
92°52.5W	36°53.5N	13/ 6/73	13°52'34	16-255	-238	BOSTON MTS. C70
92°24.5W	36°34.5N	13/ 6/73	13°52'42	16-256	-239	BOSTON MTS. C80
92°53.1W	36°52.5N	13/ 6/73	13°52'34	82-181	-	MISSOURI, C60
92°32.1W	36°39.4N	13/ 6/73	13°52'39	82-182	-	ARKANSAS C60
92°11.0W	36°25.7N	13/ 6/73	13°52'45	82-183	-	ARKANSAS C60
92°43.6W	39°35.5N	9/ 6/73	15°08'14	10-140	-132	MISSOURI RIVER, COLUMBIA, MOBERLY
92°12.3W	39°18.1N	9/ 6/73	15°08'22	10-141	-133	MISSOURI RIVER, JEFFERSON CITY, COLUMBIA
92°42.3W	39°34.4N	9/ 6/73	15°08'14	81-183	-	BROOKFIELD, MOBERLY, MISSOURI RIVER
92°19.2W	39°21.2N	9/ 6/73	15°08'20	81-184	-	MOBERLY, COLUMBIA, MISSOURI RIVER

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
92°14.9W	41°46.2N	10/ 6/73	14°24'40	10-247	-231	DES MOINES, AMES, IOWA RIVER
92°20.8W	41°46.3N	10/ 6/73	14°24'39	81-326	-	TAMA, BELLE PLAIN
92°48.2W	42°01.5N	10/ 6/73	14°24'32	10-246	-230	DES MOINES, AMES, MARSHALLTOWN
92°45.6W	42°00.6N	10/ 6/73	14°24'33	81-325	-	MARSHALLTOWN, IOWA RIVER
92°32.4W	45°37.7N	12/ 6/73	12°57'28	16-145	-137	SANDSTONE C80
91°32.7W	18°58.6N	14/ 6/73	14°50'00	04-307	-275	GULF OF MEXICO, TERMINOS BAY, RIO CANDALARIA
91°17.6W	23°48.5N	5/ 6/73	18°04'33	10-056	-056	GULF OF MEXICO
91°26.5W	23°57.1N	5/ 6/73	18°04'30	81-074	-	GULF OF MEXICO, OVEREXPOSED
91°10.6W	23°40.5N	5/ 6/73	18°04'36	81-075	-	GULF OF MEXICO, OVEREXPOSED
91°00.1W	23°30.1N	5/ 6/73	18°04'40	81-076	-	GULF OF MEXICO, OVEREXPOSED
91°39.0W	24°10.7N	5/ 6/73	18°04'25	10-055	-055	GULF OF MEXICO
91°58.4W	24°29.5N	5/ 6/73	18°04'18	81-072	-	GULF OF MEXICO, OVEREXPOSED
91°42.3W	24°13.3N	5/ 6/73	18°04'24	81-073	-	GULF OF MEXICO, OVEREXPOSED
91°46.6W	28°47.1N	11/ 6/73	15°20'50	82-012	-	GULF OF MEXICO C100
91°09.3W	28°13.6N	11/ 6/73	15°21'03	82-013	-	GULF OF MEXICO C100
91°26.8W	35°55.6N	13/ 6/73	13°52'58	16-258	-241	ARKANSAS C90
91°28.1W	35°55.7N	13/ 6/73	13°52'57	82-185	-	ARKANSAS C80
91°06.7W	35°40.5N	13/ 6/73	13°53'03	82-186	-	ARKANSAS C9C
91°55.8W	36°16.1N	13/ 6/73	13°52'50	16-257	-240	BOSTON MTS. C80
91°48.9W	36°09.4N	13/ 6/73	13°52'51	82-184	-	ARKANSAS C70
91°10.6W	38°43.1N	9/ 6/73	15°08'38	10-143	-135	MISSOURI RIVER, MISSISSIPPI RIV. ILL. RIV. ST. LOUIS
91°33.4W	38°55.3N	9/ 6/73	15°08'32	81-186	-	FULTON, MEXICO, MISSOURI
91°10.6W	38°42.3N	9/ 6/73	15°08'38	81-187	-	ST. CHARLES PACIFIC, MISSOURI RIVER
91°41.6W	39°00.5N	9/ 6/73	15°08'30	10-142	-134	MISSOURI RIVER, MISSISSIPPI RIVER, JEFFERSON CITY
91°56.1W	39°08.3N	9/ 6/73	15°08'26	81-185	-	COLUMBIA, FULTON, MISSOURI RIVER
91°41.6W	41°30.2N	10/ 6/73	14°24'48	10-248	-232	WATERLOO, NEWTON, OKALOSA
91°09.0W	41°14.4N	10/ 6/73	14°24'56	10-249	-233	CEDAR RAPIDS, IOWA CITY, OTTUMWA
91°56.1W	41°36.5N	10/ 6/73	14°24'45	81-327	-	BELLE PLAIN, CEDAR RAPIDS, IOWA CITY
91°31.4W	41°24.6N	10/ 6/73	14°24'50	81-328	-	IOWA CITY, MUSCATINE, MISSISSIPPI RIVER
91°07.0W	41°12.6N	10/ 6/73	14°24'56	81-329	-	MUSCATINE, ROCK ISLAND, MISSISSIPPI RIVER
91°54.1W	45°25.1N	12/ 6/73	12°57'36	16-146	-138	MINNESOTA, WISCONSIN C5C
91°17.9W	45°14.6N	12/ 6/73	12°57'44	16-147	-139	MINNESOTA, WISCONSIN C90
90°03.1W	17°15.4N	14/ 6/73	14°50'36	04-309	-277	EL PETEN, GUATEMALA, BRITISH HONDURAS C50
90°47.6W	18°06.6N	14/ 6/73	14°50'18	04-308	-276	CAMPECHE STATE, MEXICO, EL PETEN, GUATEMALA C40
90°13.0W	22°42.6N	5/ 6/73	18°04'57	10-059	-059	GULF OF MEXICO, ARRECIFE ALACRAN
90°23.2W	22°51.5N	5/ 6/73	18°04'53	81-078	-	GULF OF MEXICO, OVEREXPOSED
90°07.7W	22°35.6N	5/ 6/73	18°04'59	81-079	-	ARRECIFE, ALACRAN, OVEREXPOSED
90°55.8W	23°26.5N	5/ 6/73	18°04'41	10-057	-057	GULF OF MEXICO
90°34.7W	23°04.6N	5/ 6/73	18°04'49	10-058	-058	GULF OF MEXICO
90°39.0W	23°08.2N	5/ 6/73	18°04'47	81-077	-	GULF OF MEXICO, OVEREXPOSED
90°32.4W	27°39.6N	11/ 6/73	15°21'15	82-014	-	GULF OF MEXICO C100
90°03.7W	34°57.7N	13/ 6/73	13°53'22	16-261	-244	MEMPHIS, MISSISSIPPI RIVER C80
90°05.1W	34°57.8N	13/ 6/73	13°53'21	82-189	-	MEMPHIS C75
90°59.1W	35°36.1N	13/ 6/73	13°53'06	16-259	-242	ARKANSAS C90
90°31.4W	35°17.6N	13/ 6/73	13°53'14	16-260	-243	MEMPHIS, MISSISSIPPI RIVER C9C
90°45.9W	35°26.3N	13/ 6/73	13°53'09	82-187	-	ARKANSAS C90
90°25.5W	35°12.6N	13/ 6/73	13°53'15	82-188	-	MEMPHIS C80
90°41.0W	38°25.6N	9/ 6/73	15°08'46	10-144	-136	ST. LOUIS, PORTAGE DES SIOUX, MISSISSIPPI RIVER
90°10.7W	38°07.7N	9/ 6/73	15°08'54	10-145	-137	ST. LOUIS, MISSISSIPPI RIVER, KASKASKIA RIVER
90°48.2W	38°25.1N	9/ 6/73	15°08'44	81-188	-	ST. LOUIS, MISSISSIPPI RIVER, MISSOURI RIVER
90°25.8W	38°15.5N	9/ 6/73	15°08'50	81-189	-	ST. LOUIS, FESTUS, MISSISSIPPI RIVER
90°03.4W	38°02.4N	9/ 6/73	15°08'56	81-190	-	ST. LOUIS, MISSISSIPPI RIVER, KASKASKIA RIVER
90°36.0W	40°57.5N	10/ 6/73	14°25'04	10-250	-234	MISSISSIPPI RIVER, IOWA RIVER, MUSCATINE
90°03.1W	40°41.3N	10/ 6/73	14°25'12	10-251	-235	MISSISSIPPI RIVER, DAVENPORT, ROCK ISLAND, MOLINE
90°18.6W	40°48.5N	10/ 6/73	14°25'08	81-331	-	GALESVILLE, ILLINOIS RIVER
90°42.6W	41°00.7N	10/ 6/73	14°25'02	81-330	-	BURLINGTON, MISSISSIPPI RIVER, GALESVILLE
90°02.1W	44°46.3N	12/ 6/73	12°58'00	16-149	-141	WISCONSIN C100
90°40.0W	45°00.2N	12/ 6/73	12°57'52	16-148	-140	WISCONSIN C100
89°18.9W	16°23.7N	14/ 6/73	14°50'54	04-310	-278	GULF OF HONDURAS C90
89°30.8W	21°57.4N	5/ 6/73	18°05'13	10-061	-061	GULF OF MEXICO, ARRECIFE ALACRAN YUCATAN
89°10.0W	21°35.1N	5/ 6/73	18°05'21	10-062	-062	GULF OF MEXICO, YUCATAN, MERIDA C20
89°21.2W	21°46.3N	5/ 6/73	18°05'17	81-082	-	YUCATAN, ALACRAN, OVEREXPOSED
89°05.7W	21°29.7N	5/ 6/73	18°05'23	81-083	-	YUCATAN, TIZIMIN, OVEREXPOSED
89°52.2W	22°15.5N	5/ 6/73	18°05'05	10-060	-060	GULF OF MEXICO, ARRECIFE ALACRAN
89°52.2W	22°19.1N	5/ 6/73	18°05'05	81-080	-	ARRECIFE, ALACRAN, OVEREXPOSED
89°36.7W	22°02.6N	5/ 6/73	18°05'11	81-081	-	ARRECIFE, ALACRAN, OVEREXPOSED

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
89°19.6W	26°31.6N	11/ 6/73	15°21'41	82-016	-	GULF OF MEXICO C100
89°55.8W	27°05.5N	11/ 6/73	15°21'28	82-015	-	GULF OF MEXICO C100
89°36.4W	34°36.1N	13/ 6/73	13°53'30	16-262	-245	MEMPHIS, MISSISSIPPI RIVER C80
89°09.4W	34°18.6N	13/ 6/73	13°53'38	16-263	-246	OXFORD, TUPELO C90
89°44.6W	34°43.5N	13/ 6/73	13°53'27	82-190	-	MEMPHIS C70
89°24.5W	34°29.4N	13/ 6/73	13°53'33	82-191	-	MISSISSIPPI C70
89°04.4W	34°14.5N	13/ 6/73	13°53'39	82-192	-	MISSISSIPPI C75
89°40.3W	37°49.2N	9/ 6/73	15°09'02	10-146	-138	MISSISSIPPI RIVER, CAPE GIRARDEAU, CARBONDALE
89°11.3W	37°31.4N	9/ 6/73	15°09'10	10-147	-139	MISSISSIPPI RIVER, OHIO RIVER, CAIRO
89°41.7W	37°45.2N	9/ 6/73	15°09'02	81-191	-	CAPE GIRARDEAU, MISSISSIPPI
89°19.6W	37°35.7N	9/ 6/73	15°09'08	81-192	-	CAPE GIRARDEAU, CAIRO, MISSISSIPPI + OHIO RIVERS
89°31.4W	40°25.0N	10/ 6/73	14°25'20	10-252	-236	PEORIA, GALESBURG, ILLINOIS RIVER
89°54.5W	40°36.2N	10/ 6/73	14°25'14	81-332	-	PEORIA, ILLINOIS RIVER, POKIN
89°30.8W	40°23.8N	10/ 6/73	14°25'20	81-333	-	PEORIA, BLOOMINGTON, ILLINOIS RIVER
89°07.1W	40°11.4N	10/ 6/73	14°25'26	81-334	-	BLOOMINGTON, DECATUR
89°26.8W	44°35.0N	12/ 6/73	12°58'08	16-150	-142	WISCONSIN C100
88°01.5W	14°50.5N	14/ 6/73	14°51'26	04-314	-282	CENTRAL HONDURAS, C90
88°40.0W	15°37.2N	14/ 6/73	14°51'10	04-312	-280	CENTRAL HONDURAS, NE GUATEMALA C90
88°20.6W	15°13.5N	14/ 6/73	14°51'18	04-313	-281	CENTRAL HONDURAS, C90
88°56.5W	16°00.4N	14/ 6/73	14°51'02	04-311	-279	NORTHERN HONDURAS, NE GUATEMALA C90
88°28.5W	20°50.1N	5/ 6/73	18°05'37	10-064	-064	GULF OF MEXICO, VALLADOLID C40
88°08.1W	20°27.5N	5/ 6/73	18°05'45	10-065	-065	YUCATAN C50
88°35.4W	20°56.7N	5/ 6/73	18°05'34	81-085	-	YUCATAN, CHICHEN ITZA, OVEREXPOSED
88°20.3W	20°40.1N	5/ 6/73	18°05'40	81-086	-	YUCATAN, CHICHEN ITZA, OVEREXPOSED
88°05.1W	20°23.6N	5/ 6/73	18°05'46	81-087	-	YUCATAN, CHICHEN ITZA, OVEREXPOSED
88°49.3W	21°12.5N	5/ 6/73	18°05'29	10-063	-063	GULF OF MEXICO, YUCATAN, MERIDA C30
88°50.6W	21°13.2N	5/ 6/73	18°05'29	81-084	-	YUCATAN, TIZIMIN, OVEREXPOSED
88°44.0W	25°57.5N	11/ 6/73	15°21'53	82-017	-	GULF OF MEXICO C75
88°08.4W	25°23.0N	11/ 6/73	15°22'06	82-018	-	GULF OF MEXICO C40
88°42.3W	33°55.2N	13/ 6/73	13°53'46	16-264	-247	TUPELO, COLUMBIA C90
88°15.6W	33°39.4N	13/ 6/73	13°53'54	16-265	-248	MISSISSIPPI, ALABAMA C55
88°24.9W	33°45.3N	13/ 6/73	13°53'51	82-194	-	ALABAMA C90
88°05.1W	33°30.7N	13/ 6/73	13°53'57	82-195	-	ALABAMA C90
88°44.6W	34°00.0N	13/ 6/73	13°53'45	82-193	-	MISSISSIPPI C50
88°14.3W	36°56.8N	9/ 6/73	15°09'26	10-149	-141	MISSISSIPPI, OHIO, TENNESSEE, CUMBERLAND RIVERS
88°16.0W	36°57.0N	9/ 6/73	15°09'25	81-195	-	OHIO, TENNESSEE, CUMBERLAND RIVERS
88°43.3W	37°15.1N	9/ 6/73	15°09'18	10-148	-140	MISSISSIPPI RIVER, OHIO RIVER, PADUCAH
88°57.5W	37°22.2N	9/ 6/73	15°09'14	81-193	-	CAIRO, PADUCAH, MISSISSIPPI + OHIO RIVERS
88°37.4W	37°10.7N	9/ 6/73	15°09'20	81-194	-	OHIO, TENNESSEE, CUMBERLAND RIVERS
88°27.5W	39°50.8N	10/ 6/73	14°25'36	10-254	-238	BLOOMINGTON, SPRINGFIELD, CHAMPAIGN--URBANA
88°42.7W	39°58.5N	10/ 6/73	14°25'32	81-335	-	BLOOMINGTON, CHAMPAIGN, URBANA
88°20.3W	39°46.2N	10/ 6/73	14°25'38	81-336	-	CHAMPAIGN, URBANA, DECATUR
88°59.1W	40°08.0N	10/ 6/73	14°25'28	10-253	-237	PEORIA, BLOOMINGTON, SPRINGFIELD
88°47.6W	44°15.0N	12/ 6/73	12°58'16	16-151	-143	WISCONSIN C100
88°11.0W	44°05.0N	12/ 6/73	12°58'24	16-152	-144	WISCONSIN C100
87°04.4W	13°41.3N	14/ 6/73	14°51'50	04-317	-285	HONDURAS, EL SALVADOR, NICARAGUA, GULF OF FONSECA
87°42.7W	14°28.0N	14/ 6/73	14°51'34	04-315	-283	EL SALVADOR-HONDURAS, PACIFIC SLOPE C80
87°23.6W	14°04.7N	14/ 6/73	14°51'42	04-316	-284	GULF OF FONSECA, HONDURAS, EL SALVADOR C60
87°27.2W	19°42.4N	5/ 6/73	18°06'01	10-067	-067	CARIBBEAN SEA, BAHIA DE LA ASCENSION C20
87°06.8W	19°15.5N	5/ 6/73	18°06'09	10-068	-068	CARIBBEAN SEA, BAHIA DE LA ASCENSION C20
87°35.1W	19°50.3N	5/ 6/73	18°05'58	81-089	-	YUCATAN, BAHIA DE LA ASCENSION, OVEREXPOSED
87°20.3W	19°33.7N	5/ 6/73	18°06'04	81-090	-	YUCATAN, BAHIA DEL ESPIRITO SANTO, OVEREXPOSED
87°05.4W	19°16.5N	5/ 6/73	18°06'10	81-091	-	YUCATAN, CARIBBEAN SEA, OVEREXPOSED
87°47.3W	20°05.0N	5/ 6/73	18°05'53	10-066	-066	YUCATAN CARIBBEAN SEA, COZUMEL ISLAND C40
87°49.9W	20°07.0N	5/ 6/73	18°05'52	81-088	-	YUCATAN, CARIBBEAN SEA, OVEREXPOSED
87°33.5W	24°48.3N	11/ 6/73	15°22'19	82-019	-	GULF OF MEXICO C20
87°23.2W	32°59.7N	13/ 6/73	13°54'10	16-267	-250	MISSISSIPPI, ALABAMA UNDER CLOUDS C95
87°06.8W	32°46.2N	13/ 6/73	13°54'14	82-198	-	FLORIDA C100
87°49.3W	33°19.6N	13/ 6/73	13°54'02	16-266	-249	MISSISSIPPI, ALABAMA UNDER CLOUDS C95
87°45.6W	33°16.0N	13/ 6/73	13°54'03	82-196	-	ALABAMA C100
87°26.2W	33°01.2N	13/ 6/73	13°54'09	82-197	-	ALABAMA C100
87°45.3W	36°38.0N	9/ 6/73	15°09'34	10-150	-142	CUMBERLAND + TENNESSEE RIV. LAND BETWEEN THE LAKES
87°17.3W	36°19.6N	9/ 6/73	15°09'42	10-151	-143	NASHVILLE, CUMBERLAND + TENNESSEE RIVERS
87°54.5W	36°43.3N	9/ 6/73	15°09'31	81-196	-	LAND BETWEEN THE LAKES
87°33.5W	36°25.5N	9/ 6/73	15°09'37	81-197	-	TENNESSEE + CUMBERLAND RIVERS, CLARKSVILLE
87°12.0W	36°15.5N	9/ 6/73	15°09'43	81-198	-	NASHVILLE, CUMBERLAND RIVER
87°56.5W	39°34.0N	10/ 6/73	14°25'44	10-255	-239	CHAMPAIGN--URBANA, DANVILLE, DECATUR

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LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
87°25.9W	39°17.4N	10/ 6/73	14°25'52	10-256	-240	DANVILLE, TERRE HAUTE, VINCENNES, WABASH RIVER
87°56.5W	39°33.2N	10/ 6/73	14°25'44	81-337	-	MATON, TERRE HAUTE
87°33.1W	39°20.0N	10/ 6/73	14°25'50	81-338	-	TERRE HAUTE, WABASH RIVER, VINCENNES
87°12.4W	39°09.5N	10/ 6/73	14°25'56	81-339	-	TERRE HAUTE, WABASH RIVER, BLOOMINGTON
87°36.1W	43°51.4N	12/ 6/73	12°58'32	16-153	-145	WISCONSIN C100
87°00.2W	43°36.9N	12/ 6/73	12°58'40	16-154	-146	LAKE MICHIGAN C100
86°26.5W	12°54.7N	14/ 6/73	14°52'06	04-319	-287	HONDURAS, NICARAGUA, LAKE MANAGUA C50
86°07.8W	12°31.1N	14/ 6/73	14°52'14	04-320	-288	NICARAGUA, MOMBOTOMBO VOLCANO, MANAGUA C50
86°45.7W	13°18.2N	14/ 6/73	14°51'58	04-318	-286	HONDURAS, NICARAGUA, GULF OF FONSECA C50
86°47.0W	18°57.1N	5/ 6/73	18°06'17	10-069	-069	CARIBBEAN SEA, CHINCHORRO BANK C20
86°26.5W	18°34.0N	5/ 6/73	18°06'25	10-070	-070	CARIBBEAN SEA, CHINCHORRO BANK C20
86°06.8W	18°11.3N	5/ 6/73	18°06'33	10-071	-071	CARIBBEAN SEA C20
86°35.8W	18°43.4N	5/ 6/73	18°06'21	81-093	-	CARIBBEAN SEA, OVEREXPOSED
86°20.9W	18°26.8N	5/ 6/73	18°06'27	81-094	-	CARIBBEAN SEA, OVEREXPOSED
86°06.4W	18°09.5N	5/ 6/73	18°06'33	81-095	-	CARIBBEAN SEA, OVEREXPOSED
86°50.6W	19°00.2N	5/ 6/73	18°06'16	81-092	-	CARIBBEAN SEA, OVEREXPOSED
86°24.6W	23°38.4N	11/ 6/73	15°22'44	82-021	-	GULF OF MEXICO C20
86°58.8W	24°13.5N	11/ 6/73	15°22'31	82-020	-	GULF OF MEXICO C20
86°05.8W	31°59.2N	13/ 6/73	13°54'34	16-270	-253	ALABAMA C90
86°56.9W	32°39.6N	13/ 6/73	13°54'18	16-268	-251	ALABAMA C95
86°31.5W	32°19.5N	13/ 6/73	13°54'26	16-269	-252	ALABAMA C90
86°47.3W	32°31.3N	13/ 6/73	13°54'20	82-199	-	FLORIDA C100
86°28.5W	32°16.3N	13/ 6/73	13°54'26	82-200	-	FLORIDA C100
86°09.4W	32°01.3N	13/ 6/73	13°54'32	82-201	-	FLORIDA C90
86°20.9W	35°41.8N	9/ 6/73	15°09'58	10-153	-145	NASHVILLE, SEWANE, TULLAHOMA
86°30.2W	35°47.4N	9/ 6/73	15°09'55	81-200	-	NASHVILLE, CUMBERLAND RIVER
86°09.4W	35°33.3N	9/ 6/73	15°10'01	81-201	-	TULLAHOMA, WINCHESTER C10
86°48.6W	36°00.6N	9/ 6/73	15°09'50	10-152	-144	NASHVILLE, CUMBERLAND + TENNESSEE RIVERS
86°51.3W	36°01.5N	9/ 6/73	15°09'49	81-199	-	NASHVILLE, CUMBERLAND RIVER
86°23.9W	38°41.6N	10/ 6/73	14°26'08	10-258	-242	BLOOMINGTON, VINCENNES, WABASH RIVER
86°48.3W	38°54.8N	10/ 6/73	14°26'02	81-340	-	BLOOMINGTON, BEDFORD
86°25.6W	38°41.8N	10/ 6/73	14°26'08	81-341	-	BLOOMINGTON, PADLI, OHIO RIVER
86°10.3W	38°28.5N	10/ 6/73	14°26'13	81-342	-	LOUISVILLE, OHIO RIVER
86°56.5W	39°01.6N	10/ 6/73	14°26'00	10-257	-241	TERRE HAUTE, VINCENNES, BLOOMINGTON
86°24.2W	43°22.3N	12/ 6/73	12°58'48	16-155	-147	LAKE MICHIGAN MICH., MUSKEGON, GRAND RAPIDS C80
85°30.2W	11°44.2N	14/ 6/73	14°52'30	04-322	-290	NICARAGUA, COSTA RICA, LAKE NICARAGUA, GUANACASTE
85°11.7W	11°21.1N	14/ 6/73	14°52'38	04-323	-291	NICARAGUA, COSTA RICA, LAKE NICARAGUA, GUANACASTE
85°49.0W	12°07.6N	14/ 6/73	14°52'22	04-321	-289	NICARAGUA, LAKES MANAGUA + NICARAGUA, MANAGUA C80
85°46.7W	17°48.2N	5/ 6/73	18°06'41	10-072	-072	CARIBBEAN SEA C30
85°27.2W	17°25.5N	5/ 6/73	18°06'49	10-073	-073	CARIBBEAN SEA C30
85°07.1W	17°02.2N	5/ 6/73	18°06'57	10-074	-074	CARIBBEAN SEA C30
85°51.6W	17°53.0N	5/ 6/73	18°06'39	81-096	-	CARIBBEAN SEA, OVEREXPOSED
85°37.1W	17°36.2N	5/ 6/73	18°06'45	81-097	-	CARIBBEAN SEA, OVEREXPOSED
85°22.6W	17°19.4N	5/ 6/73	18°06'51	81-098	-	CARIBBEAN SEA, OVEREXPOSED
85°08.1W	17°02.5N	5/ 6/73	18°06'57	81-099	-	CARIBBEAN SEA, OVEREXPOSED
85°16.7W	22°28.0N	11/ 6/73	15°23'09	82-023	-	CUBA, CABO SAN ANTONIO, YLCATAN CHANNEL C15
85°50.3W	23°03.2N	11/ 6/73	15°22'57	82-022	-	GULF OF MEXICO C20
85°40.4W	31°39.1N	13/ 6/73	13°54'42	16-271	-254	ALABAMA C90
85°15.0W	31°18.5N	13/ 6/73	13°54'50	16-272	-255	ALABAMA C90
85°50.6W	31°46.3N	13/ 6/73	13°54'38	82-202	-	FLORIDA C80
85°31.8W	31°31.2N	13/ 6/73	13°54'44	82-203	-	FLORIDA C80
85°13.0W	31°16.0N	13/ 6/73	13°54'50	82-204	-	FLORIDA C80
85°08.1W	34°50.6N	9/ 6/73	15°10'19	81-204	-	CHATTANOOGA C70
85°52.9W	35°22.6N	9/ 6/73	15°10'06	10-154	-146	TULLAHOMA, CENTERHILL RES., TENNESSEE RIVER C30
85°25.6W	35°03.6N	9/ 6/73	15°10'14	10-155	-147	TENNESSEE RIVER, CHATTANOOGA C50
85°49.0W	35°15.1N	9/ 6/73	15°10'07	81-202	-	ELK RIVER RES., TENNESSEE RIVER C30
85°28.5W	35°04.5N	9/ 6/73	15°10'13	81-203	-	TENNESSEE RIVER, CHATTANOOGA C50
85°53.3W	38°23.7N	10/ 6/73	14°26'16	10-259	-243	OHIO RIVER, LOUISVILLE, FORT KNOX
85°23.9W	38°06.0N	10/ 6/73	14°26'24	10-260	-244	LOUISVILLE, OHIO RIVER, FORT KNOX
85°40.7W	38°15.4N	10/ 6/73	14°26'19	81-343	-	LOUISVILLE, OHIO RIVER
85°18.7W	38°02.2N	10/ 6/73	14°26'25	81-344	-	OHIO RIVER, FRANKFORT
85°17.0W	42°55.4N	12/ 6/73	12°59'04	16-157	-149	GRAND RAPIDS, LANSING C60
85°50.0W	43°07.5N	12/ 6/73	12°58'56	16-156	-148	GRAND RAPIDS, GRAND RIVER C70
84°53.3W	10°57.7N	14/ 6/73	14°52'46	04-324	-292	COSTA RICA, GUANACASTE GOLFO DE NICOYA C80
84°34.8W	10°34.1N	14/ 6/73	14°52'54	04-325	-293	COSTA RICA, ALAJUELA, GUANACASTE C70
84°16.4W	10°10.4N	14/ 6/73	14°53'02	04-326	-294	COSTA RICA, MESETA CENTRAL, SAN JOSE C60
84°08.8W	15°53.3N	5/ 6/73	18°07'21	10-077	-077	CARIBBEAN SEA, PUNTA PADUCA, HONDURAS C50

LONGITUDE DDD°MM.M	LATITUDE DDD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
84°10.8W	15°54.6N	5/ 6/73	18°07'20	81-103	-	CARIBBEAN SEA, HONDURAS, MOSQUITIA C60
84°48.0W	16°39.5N	5/ 6/73	18°07'05	10-075	-075	CARIBBEAN SEA, HONDURAS C40
84°28.2W	16°16.2N	5/ 6/73	18°07'13	10-076	-076	CARIBBEAN SEA, CABO CAMARON, HONDURAS C50
84°53.9W	16°45.6N	5/ 6/73	18°07'03	81-100	-	CARIBBEAN SEA, OVEREXPOSED
84°39.4W	16°28.6N	5/ 6/73	18°07'09	81-101	-	CARIBBEAN SEA, HONDURAS, MOSQUITIA C40
84°25.3W	16°11.8N	5/ 6/73	18°07'14	81-102	-	CARIBBEAN SEA, HONDURAS, MOSQUITIA C60
84°43.4W	21°52.6N	11/ 6/73	15°23'22	82-024	-	CUBA, CABO SAN ANTONIO, YUCATAN CHANNEL C20
84°10.4W	21°17.0N	11/ 6/73	15°23'35	82-025	-	CARIBBEAN SEA, YUCATAN BASIN C20
84°50.0W	30°57.5N	13/ 6/73	13°54'58	16-273	-256	ALABAMA, FLORIDA C80
84°25.6W	30°37.5N	13/ 6/73	13°55'06	16-274	-257	TALLAHASSEE, APPALACHEE BAY C80
84°00.9W	30°16.5N	13/ 6/73	13°55'14	16-275	-258	TALLAHASSEE, PERRY, APPALACHEE BAY C75
84°36.1W	30°45.5N	13/ 6/73	13°55'02	82-206	-	FLORIDA C70
84°17.7W	30°30.0N	13/ 6/73	13°55'08	82-207	-	FLORIDA GULF COAST C70
84°54.6W	31°00.7N	13/ 6/73	13°54'56	82-205	-	FLORIDA C80
84°57.9W	34°44.0N	9/ 6/73	15°10'22	10-156	-148	TENNESSEE RIVER, CHATTANOOGA C70
84°31.2W	34°24.5N	9/ 6/73	15°10'30	10-157	-149	CHATTANOOGA C90
84°03.8W	34°05.1N	9/ 6/73	15°10'38	10-158	-150	GEORGIA C100
84°48.0W	34°36.2N	9/ 6/73	15°10'25	81-205	-	CHICKAMAUGA C90
84°27.9W	34°21.7N	9/ 6/73	15°10'31	81-206	-	GEORGIA C100
84°07.8W	34°07.2N	9/ 6/73	15°10'37	81-207	-	GEORGIA C100
84°54.3W	37°48.4N	10/ 6/73	14°26'32	10-261	-245	LOUISVILLE LEXINGTON, OHIO RIVER
84°26.2W	37°31.5N	10/ 6/73	14°26'40	10-262	-246	LEXINGTON, CUMBERLAND RIVER, CUMBERLAND LAKE
84°56.9W	37°49.2N	10/ 6/73	14°26'31	81-345	-	LEXINGTON, KENTUCKY RIVER
84°36.8W	37°37.7N	10/ 6/73	14°26'37	81-346	-	LEXINGTON, KENTUCKY RIVER
84°15.0W	37°24.2N	10/ 6/73	14°26'43	81-347	-	KENTUCKY RIVER, LONDON
84°40.8W	42°38.1N	12/ 6/73	12°59'11	16-158	-150	LANSING, JACKSON, BATTLE CREEK C40
84°06.1W	42°22.6N	12/ 6/73	12°59'20	16-159	-151	DETROIT, ANN ARBOR, LANSING, JACKSON C40
83°21.0W	8°59.5N	14/ 6/73	14°53'26	04-329	-297	COSTA RICA, PENINSULA DE OSA, CORDELLERA TALAMANCA
83°02.9W	8°37.3N	14/ 6/73	14°53'34	04-330	-298	COSTA RICA, PANAMA, DAVID C50
83°57.9W	9°45.5N	14/ 6/73	14°53'10	04-327	-295	COSTA RICA, MESETA CENTRAL, SAN JOSE C60
83°39.4W	9°23.2N	14/ 6/73	14°53'18	04-328	-296	COSTA RICA, SAN JOSE, PENINSULA DE OSA C60
83°11.4W	14°44.1N	5/ 6/73	18°07'45	10-080	-080	HONDURAS, NICARAGUA, CAPE GRACIOS A DIOS C40
83°14.0W	14°44.0N	5/ 6/73	18°07'44	81-107	-	CARIBBEAN SEA, HONDURAS, NICARAGUA C60
83°01.0W	14°27.0N	5/ 6/73	18°07'50	81-108	-	CARIBBEAN SEA, NICARAGUA, MOSQUITO KEY C60
83°49.7W	15°30.4N	5/ 6/73	18°07'29	10-078	-078	CARIBBEAN SEA, PUNTA PADUCA, HONDURAS C60
83°30.2W	15°07.0N	5/ 6/73	18°07'37	10-079	-079	CARIBBEAN SEA, CAPE GRACIOS A DIOS C50
83°56.6W	15°37.7N	5/ 6/73	18°07'26	81-104	-	CARIBBEAN SEA, HONDURAS, MOSQUITIA C60
83°42.4W	15°20.7N	5/ 6/73	18°07'32	81-105	-	CARIBBEAN SEA, HONDURAS, NICARAGUA C70
83°28.2W	15°03.7N	5/ 6/73	18°07'38	81-106	-	CARIBBEAN SEA, HONDURAS, NICARAGUA C60
83°37.5W	20°41.4N	11/ 6/73	15°23'47	82-026	-	CARIBBEAN SEA, YUCATAN BASIN C20
83°36.5W	29°55.9N	13/ 6/73	13°55'22	16-276	-259	LIVE OAK, PERRY, LAKE CITY C70
83°12.1W	29°35.0N	13/ 6/73	13°55'30	16-277	-260	GAINESVILLE C60
83°41.4W	29°59.2N	13/ 6/73	13°55'20	82-209	-	FLORIDA GULF COAST C70
83°23.3W	29°43.7N	13/ 6/73	13°55'26	82-210	-	FLORIDA C70
83°05.5W	29°28.2N	13/ 6/73	13°55'32	82-211	-	FLORIDA C60
83°59.6W	30°14.7N	13/ 6/73	13°55'14	82-208	-	FLORIDA GULF COAST C70
83°37.5W	33°45.7N	9/ 6/73	15°10'46	10-159	-151	GEORGIA C100
83°10.8W	33°25.7N	9/ 6/73	15°10'54	10-160	-152	GEORGIA C100
83°48.0W	33°52.6N	9/ 6/73	15°10'43	81-208	-	GEORGIA C100
83°28.2W	33°37.5N	9/ 6/73	15°10'49	81-209	-	GEORGIA C100
83°08.8W	33°23.2N	9/ 6/73	15°10'55	81-210	-	GEORGIA C100
83°27.9W	36°55.3N	10/ 6/73	14°26'56	10-264	-248	LONDON, HAZARD, MIDDLESBORO C25
83°24.0W	36°51.0N	10/ 6/73	14°27'04	10-265	-249	KINGSFORT, CUMBERLAND GAP, HAZARD C30
83°31.9W	36°57.0N	10/ 6/73	14°26'55	81-349	-	CUMBERLAND RIVER, MIDDLEBORO
83°10.4W	36°43.1N	10/ 6/73	14°27'01	81-350	-	CUMBERLAND GAP, CLINCH RIVER
83°57.2W	37°14.0N	10/ 6/73	14°26'48	10-263	-247	LEXINGTON, CUMBERLAND RIVER, CUMBERLAND LAKE C15
83°53.3W	37°10.7N	10/ 6/73	14°26'49	81-348	-	CUMBERLAND RIVER, LONDON
83°31.9W	42°06.5N	12/ 6/73	12°59'28	16-160	-152	DETROIT, WINDSOR, LAKE ERIE C40
82°03.9W	7°19.2N	14/ 6/73	14°54'00	04-332	-300	PANAMA, PACIFIC OCEAN C40
82°44.7W	8°12.7N	14/ 6/73	14°53'42	04-331	-299	COSTA RICA, PANAMA, DAVID C50
82°33.2W	13°57.6N	5/ 6/73	18°08'01	10-082	-082	NICARAGUA, CAYOS MOSKITOS, PUERTO CABEZAS C30
82°14.1W	13°34.1N	5/ 6/73	18°08'09	10-083	-083	CARIBBEAN SEA, ISLA DE PROVIDENCIA C30
82°34.0W	13°56.0N	5/ 6/73	18°08'02	81-110	-	CARIBBEAN SEA C70
82°19.0W	13°37.0N	5/ 6/73	18°08'08	81-111	-	CARIBBEAN SEA C70
82°06.0W	13°20.0N	5/ 6/73	18°08'14	81-112	-	CARIBBEAN SEA C70
82°52.0W	14°20.6N	5/ 6/73	18°07'53	10-081	-081	NICARAGUA, CAYOS MOSKITOS, PUERTO CABEZAS C30
82°49.0W	14°13.0N	5/ 6/73	18°07'56	81-109	-	CARIBBEAN SEA, NICARAGUA, MOSQUITO KEY C70
82°55.0W	19°55.3N	11/ 6/73	15°24'04	16-043	-043	CARIBBEAN SEA
82°09.5W	19°04.2N	11/ 6/73	15°24'22	16-044	-044	CARIBBEAN SEA GRAND CAYMAN ISLAND
82°24.3W	28°53.0N	13/ 6/73	13°55'46	16-279	-262	GAINESVILLE OCALA, TARPON SPRINGS C60

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
82°00.6W	28°31.7N	13/ 6/73	13°55'54	16-280	-263	ORLANDO, DISNEYWORLD, LAKELAND C40
82°29.9W	28°56.5N	13/ 6/73	13°55'44	82-213	-	FLORIDA C40
82°12.1W	28°41.3N	13/ 6/73	13°55'50	82-214	-	FLORIDA C20
82°48.0W	29°13.5N	13/ 6/73	13°55'38	16-278	-261	GAINESVILLE CEDAR KEY C60
82°47.4W	29°12.6N	13/ 6/73	13°55'38	82-212	-	FLORIDA C60
82°18.4W	32°45.6N	9/ 6/73	15°11'10	10-162	-154	GEORGIA C100
82°29.9W	32°53.7N	9/ 6/73	15°11'06	81-212	-	GEORGIA C100
82°10.5W	32°38.6N	9/ 6/73	15°11'12	81-213	-	GEORGIA C100
82°44.7W	33°05.5N	9/ 6/73	15°11'02	10-161	-153	GEORGIA C100
82°49.0W	33°08.6N	9/ 6/73	15°11'01	81-211	-	GEORGIA C100
82°01.0W	35°52.6N	10/ 6/73	14°27'28	10-268	-252	BRISTOL, GREAT SMOKY MTS. C50
82°56.0W	36°31.6N	10/ 6/73	14°27'12	10-266	-250	KINGSPORT, BRISTOL, JOHNSON CITY C40
82°31.0W	36°11.6N	10/ 6/73	14°27'20	10-267	-251	KINGSPORT, BRISTOL, JOHNSON CITY C50
82°49.0W	36°25.2N	10/ 6/73	14°27'07	81-351	-	CLINCH RIVER, HOLSTON RIVER
82°27.9W	36°15.5N	10/ 6/73	14°27'13	81-352	-	KINGSPORT, JOHNSON CITY, GREENVILLE C15
82°07.2W	36°01.5N	10/ 6/73	14°27'19	81-353	-	GREAT SMOKY MTS. C30
82°59.9W	41°53.6N	12/ 6/73	12°59'36	16-161	-153	DETROIT, WINDSOR, TOLEDO, LAKE ERIE C40
82°26.9W	41°38.1N	12/ 6/73	12°59'44	16-162	-154	WINDSOR, SANDUSKY, CLEVELAND, LAKE ERIE C50
81°19.0W	6°22.1N	14/ 6/73	14°54'20	04-333	-301	PACIFIC OCEAN C30
81°36.2W	12°47.3N	5/ 6/73	18°08'25	10-085	-085	CARIBBEAN SEA C30
81°17.7W	12°24.2N	5/ 6/73	18°08'33	10-086	-086	CARIBBEAN SEA C90
81°39.0W	12°45.6N	5/ 6/73	18°08'26	81-114	-	CARIBBEAN SEA C90
81°22.0W	12°27.6N	5/ 6/73	18°08'32	81-115	-	CARIBBEAN SEA C95
81°08.0W	12°10.6N	5/ 6/73	18°08'38	81-116	-	CARIBBEAN SEA C100
81°55.3W	13°11.6N	5/ 6/73	18°08'17	10-084	-084	CARIBBEAN SEA, ISLA DE PROVIDENCIA C30
81°52.0W	13°02.6N	5/ 6/73	18°08'20	81-113	-	CARIBBEAN SEA C80
81°24.3W	18°12.5N	11/ 6/73	15°24'40	16-045	-045	CARIBBEAN SEA BOAT WAKES
81°13.8W	27°49.2N	13/ 6/73	13°56'10	16-282	-265	ORLANDO, MELBOURNE C60
81°19.7W	27°54.6N	13/ 6/73	13°56'07	82-217	-	FLORIDA LAKE WALES C20
81°02.6W	27°38.2N	13/ 6/73	13°56'13	82-218	-	FLORIDA LAKE WALES C30
81°37.2W	28°10.6N	13/ 6/73	13°56'02	16-281	-264	ORLANDO, LAKELAND, LAKE WALES C40
81°54.6W	28°25.6N	13/ 6/73	13°55'55	82-215	-	FLORIDA DISNEYWORLD C20
81°37.2W	28°09.8N	13/ 6/73	13°56'01	82-216	-	FLORIDA DISNEYWORLD C20
81°01.6W	31°45.6N	9/ 6/73	15°11'34	10-165	-157	BRUNSWICK, SEA ISLE COAST OF GEORGIA C70
81°16.0W	31°51.6N	9/ 6/73	15°11'30	81-216	-	SEA ISLE COAST C80
81°52.3W	32°25.6N	9/ 6/73	15°11'18	10-163	-155	GEORGIA C90
81°27.0W	32°05.6N	9/ 6/73	15°11'26	10-164	-156	BRUNSWICK, SEA ISLE COAST OF GEORGIA C80
81°51.3W	32°23.5N	9/ 6/73	15°11'18	81-214	-	GEORGIA C90
81°32.2W	32°08.5N	9/ 6/73	15°11'24	81-215	-	GEORGIA C80
81°33.0W	35°21.6N	10/ 6/73	14°27'36	10-269	-253	GREAT SMOKY MTS. C75
81°06.0W	35°06.6N	10/ 6/73	14°27'44	10-270	-254	GREAT SMOKY MTS. C90
81°46.4W	35°47.4N	10/ 6/73	14°27'25	81-354	-	GREAT SMOKY MTS. C70
81°25.6W	35°33.4N	10/ 6/73	14°27'31	81-355	-	NORTH CAROLINA, CATAWBA RIVER C80
81°04.9W	35°15.3N	10/ 6/73	14°27'37	81-356	-	NORTH CAROLINA, CATAWBA RIVER C90
81°51.7W	41°19.3N	12/ 6/73	12°59'52	16-163	-155	CLEVELAND, LAKE ERIE C60
81°20.7W	41°05.7N	12/ 6/73	13°00'00	16-164	-156	CLEVELAND, LAKE ERIE C75
80°38.2W	5°25.4N	14/ 6/73	14°54'38	04-334	-302	PACIFIC OCEAN C30
80°15.0W	10°57.6N	5/ 6/73	18°09'02	81-120	-	CARIBBEAN SEA C100
80°01.0W	10°39.6N	5/ 6/73	18°09'08	81-121	-	CARIBBEAN SEA C100
80°40.2W	11°37.4N	5/ 6/73	18°08'49	10-088	-088	CARIBBEAN SEA C100
80°21.4W	11°13.7N	5/ 6/73	18°08'57	10-089	-089	CARIBBEAN SEA C100
80°55.0W	11°52.6N	5/ 6/73	18°08'44	81-117	-	CARIBBEAN SEA C100
80°41.0W	11°34.6N	5/ 6/73	18°08'50	81-118	-	CARIBBEAN SEA C100
80°29.0W	11°15.6N	5/ 6/73	18°08'56	81-119	-	CARIBBEAN SEA C100
80°58.6W	12°00.6N	5/ 6/73	18°08'41	10-087	-087	CARIBBEAN SEA C100
80°39.8W	17°21.2N	11/ 6/73	15°24'58	16-046	-046	CARIBBEAN SEA ROSELIND BANK
80°03.9W	26°44.2N	13/ 6/73	13°56'34	16-285	-268	FLORIDA GOLD COAST, LAKE OKEECHOBEE C60
80°11.2W	26°50.2N	13/ 6/73	13°56'31	82-221	-	FLORIDA, WEST PALM BEACH C60
80°50.4W	27°27.6N	13/ 6/73	13°56'18	16-283	-266	MELBOURNE, LAKE OKEECHOBEE C60
80°27.0W	27°05.5N	13/ 6/73	13°56'26	16-284	-267	WEST PALM BEACH, LAKE OKEECHOBEE C60
80°45.4W	27°22.3N	13/ 6/73	13°56'19	82-219	-	FLORIDA LAKE OKEECHOBEE C40
80°28.3W	27°06.4N	13/ 6/73	13°56'25	82-220	-	FLORIDA LAKE OKEECHOBEE
80°00.0W	30°45.6N	9/ 6/73	15°11'19	81-220	-	ATLANTIC OCEAN C60
80°36.5W	31°24.5N	9/ 6/73	15°11'42	10-166	-158	BRUNSWICK, SEA ISLE COAST OF GEORGIA C80
80°56.0W	31°36.6N	9/ 6/73	15°11'42	81-217	-	SEA ISLE COAST C60
80°38.0W	31°20.6N	9/ 6/73	15°11'54	81-218	-	ATLANTIC OCEAN C60
80°18.0W	31°05.6N	9/ 6/73	15°11'06	81-219	-	ATLANTIC OCEAN C70
80°34.0W	34°46.6N	10/ 6/73	14°27'52	10-271	-255	NORTH CAROLINA C100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
80°06.0W	34°24.0N	10/ 6/73	14°28'00	10-272	-256	NORTH CAROLINA C100
80°24.3W	34°50.8N	10/ 6/73	14°27'48	81-358	-	NORTH CAROLINA C100
80°03.9W	34°36.3N	10/ 6/73	14°27'54	81-359	-	NORTH CAROLINA C100
80°44.4W	35°04.9N	10/ 6/73	14°27'42	81-357	-	CLOUDS C100
80°46.4W	40°46.5N	12/ 6/73	13°00'08	16-165	-157	OHIO C80
80°14.1W	40°30.2N	12/ 6/73	13°00'16	16-166	-158	OHIO, PENNSYLVANIA C90
79°17.8W	3°42.8N	14/ 6/73	14°55'14	04-336	-304	PACIFIC OCEAN C60
79°58.0W	4°36.0N	14/ 6/73	14°54'56	04-335	-303	PACIFIC OCEAN C30
79°47.0W	10°20.0N	5/ 6/73	18°09'14	81-122	-	CARIBBEAN SEA C100
79°33.0W	10°02.0N	5/ 6/73	18°09'20	81-123	-	CARIBBEAN SEA C100
79°11.8W	15°37.5N	11/ 6/73	15°25'34	16-048	-048	CARIBBEAN SEA SERRANILLA BANK ROJA NUEVA BANK
79°55.7W	16°29.4N	11/ 6/73	15°25'16	16-047	-047	CARIBBEAN SEA SERRANILLA BANK
79°03.9W	25°45.5N	13/ 6/73	13°56'55	82-225	-	BAHAMAS, Bimini C40
79°41.2W	26°22.7N	13/ 6/73	13°56'42	16-286	-269	FLORIDA GOLD COAST, Bimini, FREEPORT, BAHAMAS C50
79°18.4W	26°00.5N	13/ 6/73	13°56'50	16-287	-270	FLORIDA GOLD COAST, Bimini, GREAT BAHAMA BANK C50
79°54.3W	26°34.2N	13/ 6/73	13°56'37	82-222	-	FLORIDA, WEST PALM BEACH C60
79°37.5W	26°18.2N	13/ 6/73	13°56'43	82-223	-	FLORIDA, GOLD COAST C40
79°20.7W	26°02.1N	13/ 6/73	13°56'49	82-224	-	BAHAMAS, Bimini C40
79°04.2W	33°52.7N	10/ 6/73	14°28'12	81-362	-	CLOUDS C100
79°37.0W	34°03.0N	10/ 6/73	14°28'08	10-273	-257	NORTH CAROLINA C100
79°43.8W	34°21.5N	10/ 6/73	14°28'00	81-360	-	CLOUDS C100
79°24.0W	34°07.4N	10/ 6/73	14°28'06	81-361	-	CLOUDS C100
79°09.9W	39°56.5N	12/ 6/73	13°00'32	16-168	-160	PENNSYLVANIA, HEAVY AIR POLLUTION C80
79°41.8W	40°13.4N	12/ 6/73	13°00'24	16-167	-159	PENNSYLVANIA, HEAVY AIR POLLUTION C80
78°37.6W	2°49.4N	14/ 6/73	14°55'32	04-337	-305	PACIFIC OCEAN COLUMBIA C60
78°28.7W	14°45.4N	11/ 6/73	15°25'52	16-049	-049	CARIBBEAN SEA C30
78°56.3W	25°39.7N	13/ 6/73	13°56'58	16-288	-271	Bimini, GREAT BAHAMA BANK C50
78°34.3W	25°17.4N	16/ 6/73	13°57'06	16-289	-289	ANDROS IS., GREAT BAHAMA BANK C40
78°15.1W	29°25.8N	9/ 6/73	15°12'28	10-167	-159	CLOUDS OVER WATER
78°04.3W	29°15.4N	9/ 6/73	15°12'32	81-221	-	ATLANTIC OCEAN EAST OF BAHAMAS
78°44.5W	33°38.2N	10/ 6/73	14°28'18	81-363	-	CLOUDS C100
78°25.0W	33°23.6N	10/ 6/73	14°28'24	81-364	-	CLOUDS C100
78°05.6W	33°08.7N	10/ 6/73	14°28'30	81-365	-	CLOUDS C100
78°39.2W	39°35.8N	12/ 6/73	13°00'39	16-169	-161	JOHNSTOWN, CUMBERLAND, HEAVY AIR POLLUTION C50
78°07.6W	39°22.2N	12/ 6/73	13°00'48	16-170	-162	BLUE RIDGE, ALLEGHENY MTS., CUMBERLAND C40
77°57.3W	1°55.5N	14/ 6/73	14°55'50	04-338	-306	COLUMBIA C80
77°17.8W	1°02.6N	14/ 6/73	14°56'08	04-339	-307	COLUMBIA C80
77°45.8W	15°53.2N	11/ 6/73	15°26'10	16-050	-050	CARIBBEAN SEA C30
77°03.3W	13°00.8N	11/ 6/73	15°26'28	16-051	-051	CARIBBEAN SEA C40
77°21.1W	28°38.1N	9/ 6/73	15°12'46	10-168	-160	CLOUDS OVER WATER
77°26.4W	28°41.8N	9/ 6/73	15°12'44	81-222	-	ATLANTIC OCEAN EAST OF BAHAMAS
77°46.1W	32°53.5N	10/ 6/73	14°28'36	81-366	-	CLOUDS C100
77°27.0W	32°39.1N	10/ 6/73	14°28'42	81-367	-	ATLANTIC OCEAN C70
77°07.9W	32°24.2N	10/ 6/73	14°28'48	81-368	-	ATLANTIC OCEAN C50
77°04.3W	38°45.5N	12/ 6/73	13°01'04	16-172	-164	POTOMAC RIV., WASH., BALTIMORE, HEAVY AIR POLLUTION
77°35.9W	39°04.5N	12/ 6/73	13°00'56	16-171	-163	WASHINGTON, BALTIMORE, BLUE RIDGE
76°21.1W	0°11.8S	30/ 5/73	20°54'35	04-057	-057	CLOUDS, LOW SUN C60
76°03.3W	0°35.7S	30/ 5/73	20°54'43	04-058	-058	Ecuador, COLOMBIA, RIO NAP0 C60
76°56.7W	0°35.6N	30/ 5/73	20°54'19	04-055	-055	PASTO, COLOMBIA, LOW SUN C75
76°39.2W	0°12.2N	30/ 5/73	20°54'27	04-056	-056	CLOUDS, LOW SUN C60
76°37.6W	0°08.5N	14/ 6/73	14°56'26	04-340	-308	COLUMBIA C99
76°07.3W	11°50.5N	11/ 6/73	15°26'52	16-054	-054	CARIBBEAN SEA C50
76°14.2W	11°58.7N	11/ 6/73	15°26'49	82-029	-	CARIBBEAN SEA, OVEREXPOSED C60
76°00.3W	11°41.4N	11/ 6/73	15°26'55	82-030	-	CARIBBEAN SEA, OVEREXPOSED C65
76°44.5W	12°37.4N	11/ 6/73	15°26'36	16-052	-052	CARIBBEAN SEA C40
76°25.4W	12°13.8N	11/ 6/73	15°26'44	16-053	-053	CARIBBEAN SEA C50
76°41.9W	12°33.4N	11/ 6/73	15°26'37	82-027	-	CARIBBEAN SEA, OVEREXPOSED C60
76°28.0W	12°16.1N	11/ 6/73	15°26'43	82-028	-	CARIBBEAN SEA, OVEREXPOSED C60
76°28.7W	27°50.5N	9/ 6/73	15°13'04	10-169	-161	CLOUDS OVER WATER
76°11.6W	27°33.5N	9/ 6/73	15°13'10	81-224	-	ATLANTIC OCEAN EAST OF BAHAMAS
76°48.8W	28°08.0N	9/ 6/73	15°12'57	81-223	-	ATLANTIC OCEAN EAST OF BAHAMAS
76°30.0W	31°54.2N	10/ 6/73	14°29'00	81-370	-	ATLANTIC OCEAN C15

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190 A+B+H -FRAME	LOCATION AND COMMENTS
76°12.0W	31°39.0N	10/ 6/73	14°29'06	81-371	-	ATLANTIC OCEAN C40
76°48.8W	32°09.3N	10/ 6/73	14°28'54	81-369	-	ATLANTIC OCEAN C20
76°34.3W	38°28.8N	12/ 6/73	13°01'12	16-173	-165	CHESAPEAKE BAY, POTOMAC RIVER, WASH. DC C30
76°05.6W	38°12.1N	12/ 6/73	13°01'20	16-174	-166	CHESAPEAKE BAY, ANNAPOLIS, POTOMAC RIVER
75°27.4W	1°23.5S	30/ 5/73	20°55'59	04-060	-060	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
75°09.9W	1°46.5S	30/ 5/73	20°55'07	04-061	-061	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
75°17.5W	1°38.2S	14/ 6/73	14°57'02	04-342	-310	COLOMBIA, ECUADOR C95
75°45.5W	0°55.4S	30/ 5/73	20°54'51	04-059	-059	ECUADOR, COLOMBIA, RIO NAPO C60
75°57.7W	0°44.6S	14/ 6/73	14°56'44	04-341	-309	COLOMBIA ECUADOR C59
75°11.2W	10°40.2N	11/ 6/73	15°27'16	16-057	-057	COAST OF COLOMBIA C95
75°18.8W	10°45.0N	11/ 6/73	15°27'13	82-033	-	COLOMBIA C100
75°05.0W	10°31.5N	11/ 6/73	15°27'19	82-034	-	COLOMBIA C100
75°48.5W	11°27.4N	11/ 6/73	15°27'00	16-055	-055	CARIBBEAN SEA C60
75°29.7W	11°03.6N	11/ 6/73	15°27'08	16-056	-056	COAST OF COLOMBIA C80
75°46.5W	11°23.5N	11/ 6/73	15°27'01	82-031	-	CARIBBEAN SEA, OVEREXPOSED C75
75°32.7W	11°06.4N	11/ 6/73	15°27'07	82-032	-	CARIBBEAN SEA, OVEREXPOSED C90
75°35.0W	26°55.8N	5/ 6/73	15°13'23	81-225	-	ATLANTIC OCEAN EAST OF BAHAMAS
75°36.6W	27°02.1N	5/ 6/73	15°13'22	10-170	-162	CLOUDS OVER WATER
75°54.0W	31°24.0N	10/ 6/73	14°29'12	81-372	-	ATLANTIC OCEAN C40
75°36.0W	31°05.0N	10/ 6/73	14°29'18	81-373	-	ATLANTIC OCEAN C70
75°36.6W	37°56.3N	12/ 6/73	13°01'28	16-175	-167	CHESAPEAKE BAY, DEL-MAR-VA PENINSULA, CAPE CHARLES
75°05.3W	37°35.1N	12/ 6/73	13°01'36	16-176	-168	CAPE CHARLES, WOLLOPS ISLAND, ATLANTIC OCEAN
74°52.1W	2°11.0S	30/ 5/73	20°55'15	04-062	-062	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
74°34.0W	2°34.0S	30/ 5/73	20°55'23	04-063	-063	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
74°16.5W	2°56.4S	30/ 5/73	20°55'31	04-064	-064	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
74°37.3W	2°32.0S	14/ 6/73	14°57'20	04-343	-311	ECUADOR C100
74°34.7W	9°53.4N	11/ 6/73	15°27'32	16-059	-059	COLOMBIA C100
74°16.2W	9°29.5N	11/ 6/73	15°27'40	16-060	-060	COLOMBIA C100
74°37.6W	9°56.5N	11/ 6/73	15°27'30	82-036	-	COLOMBIA C100
74°24.1W	9°38.5N	11/ 6/73	15°27'36	82-037	-	COLOMBIA C100
74°10.3W	9°21.4N	11/ 6/73	15°27'42	82-038	-	COLOMBIA C100
74°52.8W	10°16.5N	11/ 6/73	15°27'24	16-058	-058	COLOMBIA C100
74°51.5W	10°14.0N	11/ 6/73	15°27'25	82-035	-	COLOMBIA C100
74°22.8W	25°50.7N	5/ 6/73	15°13'48	81-227	-	ATLANTIC OCEAN EAST OF BAHAMAS
74°45.5W	26°13.4N	5/ 6/73	15°13'40	10-171	-163	CLOUDS OVER WATER
74°58.7W	26°25.3N	5/ 6/73	15°13'35	81-226	-	ATLANTIC OCEAN EAST OF BAHAMAS
74°06.6W	36°58.1N	12/ 6/73	13°01'52	16-178	-170	ATLANTIC OCEAN, MANY BOATS
74°35.6W	37°16.8N	12/ 6/73	13°01'44	16-177	-169	ATLANTIC OCEAN, MANY BOATS
73°22.8W	4°09.7S	30/ 5/73	20°55'55	04-067	-067	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
73°04.7W	4°33.6S	30/ 5/73	20°56'03	04-068	-068	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
73°16.5W	4°19.0S	14/ 6/73	14°57'56	04-345	-313	PERU, ECUADOR C100
73°58.4W	3°22.3S	30/ 5/73	20°55'39	04-065	-065	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
73°40.3W	3°46.2S	30/ 5/73	20°55'47	04-066	-066	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
73°57.1W	3°25.2S	14/ 6/73	14°57'38	04-344	-312	PERU, ECUADOR C100
73°03.3W	7°55.0N	11/ 6/73	15°28'12	16-064	-064	COLOMBIA, CUQUITA C85
73°03.3W	7°55.0N	11/ 6/73	15°28'12	82-043	-	COLOMBIA C95
73°39.3W	8°42.7N	11/ 6/73	15°27'56	16-062	-062	COLOMBIA C100
73°21.2W	8°19.2N	11/ 6/73	15°28'04	16-063	-063	COLOMBIA, CUQUITA C90
73°42.6W	8°46.0N	11/ 6/73	15°27'54	82-040	-	COLOMBIA C100
73°29.5W	3°30.3N	11/ 6/73	15°28'00	82-041	-	COLOMBIA C95
73°16.2W	8°12.5N	11/ 6/73	15°28'06	82-042	-	COLOMBIA C95
73°57.7W	9°06.1N	11/ 6/73	15°27'48	16-061	-061	COLOMBIA C100
73°56.8W	9°03.8N	11/ 6/73	15°27'48	82-039	-	COLOMBIA C100
73°05.7W	24°35.4N	5/ 6/73	15°14'16	10-173	-165	CLOUDS OVER WATER
73°11.9W	24°41.0N	5/ 6/73	15°14'14	81-229	-	ATLANTIC OCEAN EAST OF BAHAMAS
73°55.1W	25°24.5N	5/ 6/73	15°13'58	10-172	-164	CLOUDS OVER WATER
73°47.2W	25°15.5N	5/ 6/73	15°14'01	81-228	-	ATLANTIC OCEAN EAST OF BAHAMAS
73°37.6W	36°35.5N	12/ 6/73	13°02'00	16-179	-171	ATLANTIC OCEAN
73°08.6W	36°20.7N	12/ 6/73	13°02'08	16-180	-172	ATLANTIC OCEAN
72°47.5W	5°03.1S	30/ 5/73	20°56'11	04-069	-069	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
72°29.1W	5°23.7S	30/ 5/73	20°56'19	04-070	-070	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
72°10.6W	5°44.3S	30/ 5/73	20°56'27	04-071	-071	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
72°36.3W	5°12.2S	14/ 6/73	14°58'14	04-346	-314	PERU C100
72°08.6W	6°44.2N	11/ 6/73	15°28'36	16-067	-067	COLOMBIA, VENEZUELA RIO ARANUCA C90
72°08.6W	6°43.2N	11/ 6/73	15°28'36	82-047	-	COLOMBIA C95
72°45.5W	7°31.4N	11/ 6/73	15°28'20	16-065	-065	COLOMBIA, CUQUITA C85

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OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190 A B+W -FRAME	LOCATION AND COMMENTS
72°26.0W	7°08.0N	11/ 6/73	15°28'28	16-066	-066	COLOMBIA, VENEZUELA C9C
72°49.5W	7°36.5N	11/ 6/73	15°28'18	82-044	-	COLOMBIA C95
72°35.3W	7°18.5N	11/ 6/73	15°28'24	82-045	-	COLOMBIA C95
72°22.2W	7°00.5N	11/ 6/73	15°28'30	82-046	-	COLOMBIA C95
72°16.2W	23°45.6N	9/ 6/73	15°14'34	10-174	-166	CLOUDS OVER WATER
72°02.7W	23°30.6N	9/ 6/73	15°14'39	81-231	-	ATLANTIC OCEAN EAST OF BAHAMAS
72°37.0W	24°05.5N	9/ 6/73	15°14'26	81-230	-	ATLANTIC OCEAN EAST OF BAHAMAS
72°41.3W	36°02.4N	12/ 6/73	13°02'16	16-181	-173	ATLANTIC OCEAN
71°52.9W	6°08.8S	30/ 5/73	20°56'35	04-072	-072	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
71°35.5W	6°32.4S	30/ 5/73	20°56'43	04-073	-073	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
71°17.3W	6°55.7S	30/ 5/73	20°56'51	04-074	-074	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
71°56.1W	6°05.4S	14/ 6/73	14°58'32	04-347	-315	PERU, BRAZIL C100
71°15.3W	6°59.0S	14/ 6/73	14°58'50	04-348	-316	BRAZIL, RIO PURAS C7C
71°32.7W	5°57.1N	11/ 6/73	15°28'52	16-069	-069	COLOMBIA, VENEZUELA RIO ARANUCA C90
71°14.6W	5°33.4N	11/ 6/73	15°29'00	16-070	-070	COLOMBIA, RIO META C90
71°28.4W	5°50.3N	11/ 6/73	15°28'54	82-050	-	BRAZIL C95
71°14.9W	5°32.7N	11/ 6/73	15°29'00	82-051	-	BRAZIL, AMAZON BASIN, CLOUDS C98
71°01.4W	5°15.1N	11/ 6/73	15°29'06	82-052	-	BRAZIL, AMAZON BASIN, CLOUDS C98
71°50.5W	6°20.5N	11/ 6/73	15°28'44	16-068	-068	COLOMBIA, VENEZUELA RIO ARANUCA C90
71°55.1W	6°25.6N	11/ 6/73	15°28'42	82-048	-	COLOMBIA, BRAZIL C95
71°41.6W	6°08.0N	11/ 6/73	15°28'48	82-049	-	BRAZIL C95
71°26.3W	17°36.0N	13/ 6/73	13°59'49	82-226	-	DOMINICAN REPUBLIC, CABO FALSO, ISLA BEATA C60
71°12.3W	17°20.8N	13/ 6/73	13°59'55	82-227	-	CARIBBEAN SEA C50
71°28.4W	22°56.0N	9/ 6/73	15°14'52	10-175	-167	CLOUDS OVER WATER
71°28.4W	22°55.2N	9/ 6/73	15°14'52	81-232	-	ATLANTIC OCEAN EAST OF BAHAMAS
71°38.3W	35°15.6N	12/ 6/73	13°02'34	16-182	-174	ATLANTIC OCEAN
70°22.5W	8°06.1S	30/ 5/73	20°57'15	04-077	-077	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
70°04.1W	8°29.8S	30/ 5/73	20°57'23	04-078	-078	BRAZIL, RIO JURUA
70°59.1W	7°15.6S	30/ 5/73	20°56'59	04-075	-075	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
70°40.7W	7°43.2S	30/ 5/73	20°57'07	04-076	-076	CLOUDS, LOW SUN, IMPOSSIBLE TO SEE TERRAIN
70°34.7W	7°52.1S	14/ 6/73	14°59'08	04-349	-317	BRAZIL, RIO IACO, RIO CAETA, RIO PURAS C15
70°03.1W	3°58.4N	11/ 6/73	15°29'32	16-074	-074	COLOMBIA, RIO VICHADA C9C
70°38.7W	4°45.7N	11/ 6/73	15°29'16	16-072	-072	COLOMBIA, RIO META C90
70°20.5W	4°21.8N	11/ 6/73	15°29'24	16-073	-073	COLOMBIA C90
70°48.2W	4°57.4N	11/ 6/73	15°29'12	82-053	-	BRAZIL, AMAZON BASIN C100
70°35.0W	4°35.6N	11/ 6/73	15°29'18	82-054	-	BRAZIL, AMAZON BASIN C100
70°21.5W	4°22.2N	11/ 6/73	15°29'24	82-055	-	BRAZIL, AMAZON BASIN C100
70°08.4W	4°04.5N	11/ 6/73	15°29'29	82-056	-	BRAZIL, AMAZON BASIN C100
70°56.5W	5°09.5N	11/ 6/73	15°29'08	16-071	-071	COLOMBIA, RIO META C90
70°43.3W	16°48.5N	13/ 6/73	14°00'07	82-229	-	CARIBBEAN SEA C40
70°28.5W	16°30.1N	13/ 6/73	14°00'13	82-230	-	CARIBBEAN SEA C40
70°14.0W	16°12.4N	13/ 6/73	14°00'19	82-231	-	CARIBBEAN SEA C7C
70°57.8W	17°06.5N	13/ 6/73	14°00'01	82-228	-	CARIBBEAN SEA C40
70°21.2W	21°44.0N	9/ 6/73	15°15'17	81-234	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
70°40.7W	22°05.6N	9/ 6/73	15°15'10	10-176	-168	GRAND TURK ISLAND
70°54.5W	22°15.6N	9/ 6/73	15°15'05	81-233	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
70°36.4W	34°36.1N	12/ 6/73	13°02'52	16-183	-175	ATLANTIC OCEAN
69°35.4W	9°08.7S	14/ 6/73	14°59'34	04-351	-319	RIO ARCE C30
69°17.3W	9°32.2S	14/ 6/73	14°59'42	04-352	-320	RIO ARCE C50
69°54.2W	8°44.6S	14/ 6/73	14°59'26	04-350	-318	BRAZIL, RIO ARCE, RIO IACO
69°09.4W	2°46.5N	11/ 6/73	15°29'56	16-077	-077	COLOMBIA C95
69°15.3W	2°53.8N	11/ 6/73	15°29'53	82-060	-	BRAZIL, AMAZON BASIN C100
69°01.8W	2°36.0N	11/ 6/73	15°29'59	82-061	-	BRAZIL, AMAZON BASIN C100
69°45.0W	3°34.7N	11/ 6/73	15°29'40	16-075	-075	COLOMBIA, RIO VICHADA C9C
69°27.5W	3°11.3N	11/ 6/73	15°29'48	16-076	-076	COLOMBIA C95
69°54.8W	3°46.7N	11/ 6/73	15°29'35	82-057	-	BRAZIL, AMAZON BASIN C100
69°41.7W	3°29.1N	11/ 6/73	15°29'41	82-058	-	BRAZIL, AMAZON BASIN C100
69°28.5W	3°11.5N	11/ 6/73	15°29'47	82-059	-	BRAZIL, AMAZON BASIN C100
69°02.1W	14°46.2N	13/ 6/73	14°00'49	82-236	-	CARIBBEAN SEA C95
69°59.5W	15°54.8N	13/ 6/73	14°00'25	82-232	-	CARIBBEAN SEA C95
69°45.3W	15°40.3N	13/ 6/73	14°00'31	82-233	-	CARIBBEAN SEA C98
69°30.8W	15°20.5N	13/ 6/73	14°00'37	82-234	-	CARIBBEAN SEA C95
69°16.3W	15°03.7N	13/ 6/73	14°00'43	82-235	-	CARIBBEAN SEA C95
69°07.1W	20°24.4N	9/ 6/73	15°15'46	10-178	-170	NEVADA BANK, SILVER BANK
69°15.0W	20°32.2N	9/ 6/73	15°15'43	81-236	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
69°53.5W	21°15.2N	9/ 6/73	15°15'28	10-177	-169	SILVER BANK

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
69°47.9W	21°08.1N	9/ 6/73	15°15'30	81-235	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
69°35.7W	33°51.6N	12/ 6/73	13°03'10	16-184	-176	ATLANTIC OCEAN
68°03.4W	11°06.2S	14/ 6/73	15°00'14	04-356	-324	BRAZIL--BOLIVIA, RIO MADRE DE DIOS C90
68°40.4W	10°15.4S	14/ 6/73	14°59'58	04-354	-322	CLOUDS C90
68°21.9W	10°42.5S	14/ 6/73	15°00'06	04-355	-323	CLOUDS C90
68°58.8W	9°55.8S	14/ 6/73	14°59'50	04-353	-321	CLOUDS C90
68°33.8W	1°55.6N	11/ 6/73	15°30'12	16-079	-079	COLOMBIA, BRAZIL C95
68°16.0W	1°35.7N	11/ 6/73	15°30'20	16-080	-080	COLOMBIA, BRAZIL C95
68°22.2W	1°43.0N	11/ 6/73	15°30'17	82-064	-	BRAZIL, AMAZON BASIN C100
68°08.7W	1°25.4N	11/ 6/73	15°30'23	82-065	-	BRAZIL, AMAZON BASIN C100
68°51.2W	2°23.0N	11/ 6/73	15°30'04	16-078	-078	COLOMBIA C95
68°48.6W	2°18.4N	11/ 6/73	15°30'05	82-062	-	BRAZIL, AMAZON BASIN C100
68°35.4W	2°00.8N	11/ 6/73	15°30'11	82-063	-	BRAZIL, AMAZON BASIN C100
68°17.0W	13°52.4N	13/ 6/73	14°01'08	16-290	-273	CARIBBEAN SEA C9C
68°19.6W	13°54.5N	13/ 6/73	14°01'06	82-239	-	CARIBBEAN SEA C98
68°05.4W	13°37.0N	13/ 6/73	14°01'12	82-240	-	CARIBBEAN SEA C95
68°47.9W	14°29.0N	13/ 6/73	14°00'55	82-237	-	CARIBBEAN SEA C95
68°33.4W	14°10.5N	13/ 6/73	14°01'01	82-238	-	CARIBBEAN SEA C98
68°21.2W	19°33.3N	9/ 6/73	15°16'04	10-179	-171	NEVADA BANK, DOMINICAN REPUBLIC, CABO ENGANO
68°42.3W	19°56.1N	9/ 6/73	15°15'56	81-237	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
68°10.0W	19°15.8N	9/ 6/73	15°16'08	81-238	-	ATLANTIC OCEAN NORTH OF HISPANIOLA
68°36.4W	33°07.3N	12/ 6/73	13°03'28	16-185	-177	ATLANTIC OCEAN
67°07.4W	12°16.7S	14/ 6/73	15°00'38	04-359	-327	RIO BENI C80
67°45.0W	11°29.5S	14/ 6/73	15°00'22	04-357	-325	RIO MACRE DE DIOS C9C
67°26.2W	11°53.3S	14/ 6/73	15°00'30	04-358	-326	RIO MACRE DE DIOS C8C
67°02.8W	0°02.9S	11/ 6/73	15°30'53	82-070	-	BRAZIL JUNCTION OF RIO NEGRO WITH RIO UAUPE C70
67°40.4W	0°48.1N	11/ 6/73	15°30'36	16-082	-082	BRAZIL, JUNCTION OF RIO NEGRO WITH RIO UAUPE C90
67°22.6W	0°24.2N	11/ 6/73	15°30'44	16-083	-083	BRAZIL, JUNCTION OF RIO NEGRO WITH RIO UAUPE C90
67°04.4W	0°00.3N	11/ 6/73	15°30'52	16-084	-084	BRAZIL, JUNCTION OF RIO NEGRO WITH RIO UAUPE C90
67°42.3W	0°49.5N	11/ 6/73	15°30'35	82-067	-	BRAZIL, AMAZON BASIN C9C
67°29.2W	0°32.2N	11/ 6/73	15°30'41	82-068	-	BRAZIL JUNCTION OF RIO NEGRO WITH RIO UAUPE C70
67°16.0W	0°14.7N	11/ 6/73	15°30'47	82-069	-	BRAZIL JUNCTION OF RIO NEGRO WITH RIO UAUPE C70
67°58.2W	1°11.1N	11/ 6/73	15°30'28	16-081	-081	COLOMBIA, BRAZIL C95
67°55.5W	1°07.7N	11/ 6/73	15°30'29	82-066	-	BRAZIL, AMAZON BASIN C100
67°23.2W	12°48.8N	13/ 6/73	14°01'30	82-243	-	CARIBBEAN SEAC95
67°09.4W	12°31.6N	13/ 6/73	14°01'36	82-244	-	CARIBBEAN SEAC95
67°34.4W	13°11.6N	13/ 6/73	14°01'26	16-291	-274	CARIBBEAN SEAC90
67°51.6W	13°22.5N	13/ 6/73	14°01'18	82-241	-	CARIBBEAN SEA C95
67°37.4W	13°05.2N	13/ 6/73	14°01'24	82-242	-	CARIBBEAN SEA C95
67°35.8W	18°41.5N	9/ 6/73	15°16'22	10-180	-172	PUERTO RICO, AGUADILLA ISLE MONA, CABO ENGANO
67°37.7W	18°43.6N	9/ 6/73	15°16'21	81-239	-	PUERTO RICO, AGUADILLA
67°06.1W	18°07.1N	9/ 6/73	15°16'34	81-240	-	PUERTO RICO, MAYAGUEZ, PONCE
66°29.8W	13°03.4S	14/ 6/73	15°00'54	04-361	-329	LAGUNAS HUATUNAS, RIO BENI C30
66°11.1W	13°26.8S	14/ 6/73	15°01'02	04-362	-330	SANTA ANA DE YACUMA, LAGUNAS HUATUNAS
66°48.6W	12°40.1S	14/ 6/73	15°00'46	04-360	-328	RIO BENI C60
66°11.4W	1°10.8S	11/ 6/73	15°31'16	16-087	-087	BRAZIL, RIO NEGRO, RIO JAPURA C9C
66°09.7W	1°13.7S	11/ 6/73	15°31'17	82-074	-	BRAZIL, RIO JAPURA C80
66°47.0W	0°23.0S	11/ 6/73	15°31'00	16-085	-085	BRAZIL, RIO NEGRO C9C
66°29.2W	0°46.9S	11/ 6/73	15°31'08	16-086	-086	BRAZIL, RIO NEGRO, RIO JAPURA C9C
66°49.6W	0°20.7S	11/ 6/73	15°30'59	82-071	-	BRAZIL, RIO NEGRO C75
66°36.1W	0°38.3S	11/ 6/73	15°31'05	82-072	-	BRAZIL, RIO NEGRO RIO JAPURA C8C
66°22.9W	0°56.1S	11/ 6/73	15°31'11	82-073	-	BRAZIL, RIO NEGRO RIO JAPURA C8C
66°07.3W	11°53.1N	13/ 6/73	14°02'02	16-293	-276	CARIBBEAN SEA C8C
66°42.4W	11°56.2N	13/ 6/73	14°01'48	82-246	-	CARIBBEAN SEA ISLAS LOS ROGUES C70
66°28.3W	11°38.0N	13/ 6/73	14°01'54	82-247	-	CARIBBEAN SEA ISLAS LOS ROGUES C60
66°14.8W	11°20.1N	13/ 6/73	14°02'00	82-248	-	CARIBBEAN SEA C6C
66°01.2W	11°01.0N	13/ 6/73	14°02'06	82-249	-	VENEZUELA, MIRANDA COAST C60
66°50.9W	12°33.1N	13/ 6/73	14°01'44	16-292	-275	CARIBBEAN SEA C8C
66°55.2W	12°14.1N	13/ 6/73	14°01'42	82-245	-	CARIBBEAN SEA ISLAS LOS ROGUES C80
66°06.4W	16°58.8N	9/ 6/73	15°16'58	10-182	-174	CARIBBEAN C2C
66°03.1W	16°53.8N	9/ 6/73	15°16'59	81-242	-	CARIBBEAN SEA
66°50.9W	17°50.7N	9/ 6/73	15°16'40	10-181	-173	PUERTO RICO, PONCE, MAYAGUEZ C2C
66°34.5W	17°30.6N	9/ 6/73	15°16'47	81-241	-	PUERTO RICO, PASTILLO
65°33.2W	14°13.2S	14/ 6/73	15°01'18	04-364	-332	SANTA ANA DE YACUMA, LAGUNAS HUATUNAS
65°14.0W	14°36.5S	14/ 6/73	15°01'26	04-365	-333	TRINIDAD, RIO MEMORE
65°52.3W	13°50.0S	14/ 6/73	15°01'10	04-363	-331	SANTA ANA DE YACUMA, LAGUNAS HUATUNAS

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SI90 A+B ROLL-FRAME	SI90A B+W -FRAME	LOCATION AND COMMENTS
65°18.0W	2°22.5S	11/ 6/73	15°31'40	16-090	-090	BRAZIL, RIO JAPURA, AMAZON C90
65°00.2W	2°45.5S	11/ 6/73	15°31'48	16-091	-091	BRAZIL, AMAZON AT TEFE C90
65°30.2W	2°66.8S	11/ 6/73	15°31'34	82-077	-	BRAZIL, AMAZON AT TEFE C80
65°17.0W	2°24.4S	11/ 6/73	15°31'40	82-078	-	BRAZIL, AMAZON AT TEFE C90
65°03.5W	2°42.2S	11/ 6/73	15°31'46	82-079	-	BRAZIL, AMAZON C90
65°53.3W	1°34.7S	11/ 6/73	15°31'24	16-088	-088	BRAZIL, RIO JAPURA, AMAZON C90
65°35.5W	1°58.6S	11/ 6/73	15°31'32	16-089	-089	BRAZIL, RIO JAPURA, AMAZON C90
65°56.6W	1°31.5S	11/ 6/73	15°31'23	82-075	-	BRAZIL, RIO JAPURA C80
65°43.4W	1°49.2S	11/ 6/73	15°31'28	82-076	-	BRAZIL, AMAZON AT TEFE C70
65°05.1W	9°50.5N	13/ 6/73	14°02'30	82-253	-	VENEZUELA, MIRANDA COAS C50
65°46.0W	10°43.0N	13/ 6/73	14°02'12	82-250	-	VENEZUELA, RIO UNARE C60
65°32.5W	10°25.6N	13/ 6/73	14°02'18	82-251	-	VENEZUELA, MIRANDA COAST C50
65°18.7W	10°07.9N	13/ 6/73	14°02'24	82-252	-	VENEZUELA, MIRANDA COAS C70
65°23.0W	11°13.0N	13/ 6/73	14°02'20	16-294	-277	ISLES LOS ROQUES, CARIBBEAN SEA C70
65°00.5W	15°37.8N	9/ 6/73	15°17'25	81-244	-	CARIBBEAN SEA
65°22.3W	16°04.7N	9/ 6/73	15°17'16	10-183	-175	CARIBBEAN C20
65°31.2W	16°14.8N	9/ 6/73	15°17'12	81-243	-	CARIBBEAN SEA
64°35.5W	15°22.5S	14/ 6/73	15°01'42	04-367	-335	RIO MEMORE, SANTA LUCIA
64°16.7W	15°45.5S	14/ 6/73	15°01'50	04-368	-336	RIO GRANDE, RIO ICHILO
64°54.9W	14°59.7S	14/ 6/73	15°01'34	04-366	-334	TRINIDAD, RIO MEMORE
64°42.4W	3°05.6S	11/ 6/73	15°31'56	16-092	-092	BRAZIL, AMAZON C90
64°24.3W	3°33.5S	11/ 6/73	15°32'04	16-093	-093	BRAZIL, AMAZON C90
64°06.5W	3°57.4S	11/ 6/73	15°32'12	16-094	-094	BRAZIL, AMAZON C90
64°37.1W	3°17.5S	11/ 6/73	15°31'58	82-081	-	BRAZIL, AMAZON C90
64°23.9W	3°35.1S	11/ 6/73	15°32'04	82-082	-	BRAZIL, AMAZON C75
64°10.4W	3°52.8S	11/ 6/73	15°32'10	82-083	-	BRAZIL, AMAZON C75
64°50.3W	2°59.5S	11/ 6/73	15°31'52	82-080	-	BRAZIL, AMAZON C55
64°23.9W	3°57.5N	13/ 6/73	14°02'48	82-256	-	VENEZUELA, C100
64°10.4W	8°40.4N	13/ 6/73	14°02'54	82-257	-	VENEZUELA, C100
64°51.3W	9°33.0N	13/ 6/73	14°02'36	82-254	-	VENEZUELA, C100
64°37.0W	9°15.5N	13/ 6/73	14°02'42	82-255	-	VENEZUELA, C100
64°40.0W	10°10.0N	13/ 6/73	14°02'38	16-295	-278	ISLES LOS ROQUES, ISLE ORCHILA, VENEZUELA C70
64°38.4W	15°13.1N	9/ 6/73	15°17'34	10-184	-176	CARIBBEAN C30
64°30.2W	15°03.4N	9/ 6/73	15°17'38	81-245	-	CARIBBEAN SEA
63°57.2W	16°06.6S	14/ 6/73	15°01'58	04-369	-337	RIO GRANDE, RIO ICHILO
63°37.8W	16°31.7S	14/ 6/73	15°02'06	04-370	-338	RIO GRANDE, RIO ICHILO
63°18.4W	16°54.6S	14/ 6/73	15°02'14	04-371	-339	SANTA CRUZ, RIO GRANDE, RIO ICHILO
63°12.8W	5°08.2S	11/ 6/73	15°32'36	16-097	-097	BRAZIL, RIO PURAS C90
63°17.4W	5°03.5S	11/ 6/73	15°32'34	82-087	-	BRAZIL, RIO PURAS C70
63°03.9W	5°21.1S	11/ 6/73	15°32'40	82-088	-	BRAZIL, RIO PURAS C60
63°48.7W	4°20.6S	11/ 6/73	15°32'20	16-095	-095	BRAZIL, AMAZON C90
63°30.9W	4°44.5S	11/ 6/73	15°32'28	16-096	-096	BRAZIL, RIO PURAS C90
63°57.2W	4°10.4S	11/ 6/73	15°32'16	82-084	-	BRAZIL, AMAZON C75
63°44.1W	4°28.2S	11/ 6/73	15°32'22	82-085	-	BRAZIL, AMAZON C70
63°30.6W	4°45.8S	11/ 6/73	15°32'28	82-086	-	BRAZIL, AMAZON C70
63°29.9W	7°47.7N	13/ 6/73	14°03'11	82-260	-	VENEZUELA, C100
63°16.4W	7°30.2N	13/ 6/73	14°03'17	82-261	-	VENEZUELA, C100
63°02.9W	7°12.6N	13/ 6/73	14°03'23	82-262	-	VENEZUELA, C100
63°56.9W	8°22.8N	13/ 6/73	14°03'00	82-258	-	VENEZUELA, C100
63°43.4W	8°05.3N	13/ 6/73	14°03'05	82-259	-	VENEZUELA, C100
63°12.8W	13°27.8N	9/ 6/73	15°18'10	10-186	-178	CARIBBEAN C30
63°28.9W	13°46.8N	9/ 6/73	15°18'03	81-247	-	CARIBBEAN SEA
63°55.9W	14°22.0N	9/ 6/73	15°17'52	10-185	-177	CARIBBEAN C20
63°56.6W	14°25.7N	9/ 6/73	15°17'51	81-246	-	CARIBBEAN SEA
62°58.9W	17°17.6S	14/ 6/73	15°02'22	04-372	-340	SANTA CRUZ, RIO GRANDE, RIO ICHILO
62°40.5W	17°46.1S	14/ 6/73	15°02'30	04-373	-341	SANTA CRUZ, RIO GRANDE C40
62°18.7W	6°19.6S	11/ 6/73	15°33'00	16-100	-100	BRAZIL, RIO MADIERA C90
62°00.9W	6°43.0S	11/ 6/73	15°33'08	16-101	-101	BRAZIL, RIO MADIERA C90
62°23.6W	6°14.0S	11/ 6/73	15°32'58	82-091	-	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C60
62°10.5W	6°31.6S	11/ 6/73	15°33'04	82-092	-	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C60
62°55.0W	5°32.1S	11/ 6/73	15°32'44	16-098	-098	BRAZIL, RIO PURAS C90
62°36.8W	5°55.5S	11/ 6/73	15°32'52	16-099	-099	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C90
62°50.7W	5°28.7S	11/ 6/73	15°32'46	82-089	-	BRAZIL, RIO PURAS C60
62°37.2W	5°56.4S	11/ 6/73	15°32'52	82-090	-	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C60
62°35.2W	6°37.1N	13/ 6/73	14°03'36	16-296	-279	VENEZUELA, LA GRAN SABANA C80
62°17.4W	6°13.6N	13/ 6/73	14°03'44	16-297	-280	VENEZUELA, LA GRAN SABANA C80
62°49.4W	6°54.5N	13/ 6/73	14°03'29	82-263	-	VENEZUELA, C100
62°36.2W	6°37.3N	13/ 6/73	14°03'35	82-264	-	VENEZUELA, LA SABANA GRANDE C90

ORIGINAL PAGE 15
OF 100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
62°22.7W	6°19.7N	13/ 6/73	14°03'41	82-265	-	VENEZUELA, LA SABANA GRANDE C70
62°09.1W	6°02.0N	13/ 6/73	14°03'47	82-266	-	VENEZUELA, LA SABANA GRANDE, ANGEL FALLS C60
62°30.6W	12°35.5N	9/ 6/73	15°18'28	10-187	-179	CARIBBEAN C3C
62°28.6W	12°32.6N	9/ 6/73	15°18'29	81-249	-	CARIBBEAN SEA
62°58.6W	13°09.7N	9/ 6/73	15°18'16	81-248	-	CARIBBEAN SEA
61°06.4W	19°24.5S	14/ 6/73	15°03'06	04-375	-343	CLOUDS, BOLIVIA, PARAGLAY C90
61°45.1W	18°35.5S	14/ 6/73	15°02'48	04-374	-342	BOLIVIA, CHACO PLAIN CEC
61°42.8W	7°06.6S	11/ 6/73	15°33'16	16-102	-102	BRAZIL, RIO ARIPUANA, RIO THEO. ROOSEVELT C80
61°24.7W	7°30.3S	11/ 6/73	15°33'24	16-103	-103	BRAZIL, RIO ARIPUANA, RIO THEO. ROOSEVELT C80
61°06.5W	7°54.2S	11/ 6/73	15°33'32	16-104	-104	BRAZIL, RIO ARIPUANA C75
61°43.4W	7°06.7S	11/ 6/73	15°33'16	82-094	-	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C60
61°29.9W	7°24.4S	11/ 6/73	15°33'22	82-095	-	BRAZIL, RIO ARIPUANA, RIO THEO. ROOSEVELT C50
61°16.7W	7°41.8S	11/ 6/73	15°33'27	82-096	-	BRAZIL, RIO ARIPUANA, RIO THEO. ROOSEVELT C40
61°03.2W	7°59.5S	11/ 6/73	15°33'33	82-097	-	BRAZIL, RIO ARIPUANA, RIO THEO. ROOSEVELT C30
61°56.9W	6°49.1S	11/ 6/73	15°33'10	82-093	-	BRAZIL, RIO MADIERA, LOBREA-HUMITA ROAD C60
61°05.2W	4°38.7N	13/ 6/73	14°04'16	16-301	-284	BRAZIL, GUYANA, RIO TACUTU C80
61°15.8W	4°51.5N	13/ 6/73	14°04'11	82-270	-	VENEZUELA, GUYANA, SERRA PACARAIMA C70
61°02.2W	4°33.7N	13/ 6/73	14°04'17	82-271	-	BRAZIL, GUYANA, RIO TACUTU C70
61°59.3W	5°49.8N	13/ 6/73	14°03'52	16-298	-281	VENEZUELA, LA GRAN SABANA C80
61°41.1W	5°26.1N	13/ 6/73	14°04'00	16-299	-282	VENEZUELA, LA GRAN SABANA C80
61°23.3W	5°02.6N	13/ 6/73	14°04'08	16-300	-283	VENEZUELA, GUYANA, SERRA PACARAIMA C80
61°55.6W	5°44.4N	13/ 6/73	14°03'53	82-267	-	VENEZUELA, LA SABANA GRANDE, C60
61°42.4W	5°26.8N	13/ 6/73	14°03'59	82-268	-	VENEZUELA, LA SABANA GRANDE, C70
61°28.9W	5°09.1N	13/ 6/73	14°04'05	82-269	-	VENEZUELA, LA SABANA GRANDE, C70
61°06.5W	10°50.4N	9/ 6/73	15°19'04	10-189	-181	TRINIDAD, PORT OF SPAIN, VENEZUELA, PUNTA MEJILBNS
61°48.4W	11°42.8N	9/ 6/73	15°18'46	10-188	-180	CARIBBEAN C5C
61°58.6W	11°55.2N	9/ 6/73	15°18'42	81-250	-	CARIBBEAN SEA C60
61°28.9W	11°17.8N	9/ 6/73	15°18'54	81-251	-	TRINIDAD, PORT OF SPAIN
60°23.7W	20°14.0S	14/ 6/73	15°03'24	04-376	-344	PARAGUAY C90
60°12.1W	9°04.7S	11/ 6/73	15°33'56	16-107	-107	BRAZIL, SERRA DO NORTE C20
60°08.8W	9°09.7S	11/ 6/73	15°33'57	82-101	-	BRAZIL, SERRA DO NORTE
60°48.4W	8°17.8S	11/ 6/73	15°33'40	16-105	-105	BRAZIL, SERRA DO NORTE C40
60°30.3W	8°41.0S	11/ 6/73	15°33'48	16-106	-106	BRAZIL, SERRA DO NORTE C20
60°49.7W	8°17.1S	11/ 6/73	15°33'39	82-098	-	BRAZIL, SERRA DO NORTE C20
60°36.2W	8°34.6S	11/ 6/73	15°33'45	82-099	-	BRAZIL, SERRA DO NORTE
60°22.4W	8°52.0S	11/ 6/73	15°33'51	82-100	-	BRAZIL, SERRA DO NORTE
60°29.6W	3°51.4N	13/ 6/73	14°04'32	16-303	-286	BRAZIL, GUYANA, KANUKU MTS. C90
60°11.8W	3°27.1N	13/ 6/73	14°04'40	16-304	-287	BRAZIL, GUYANA, KANUKU MTS. C90
60°35.9W	3°58.6N	13/ 6/73	14°04'29	82-273	-	BRAZIL, GUYANA, C90
60°22.4W	3°40.6N	13/ 6/73	14°04'35	82-274	-	BRAZIL, GUYANA, C100
60°09.2W	3°22.5N	13/ 6/73	14°04'41	82-275	-	BRAZIL, GUYANA, C100
60°47.4W	4°15.1N	13/ 6/73	14°04'24	16-302	-285	BRAZIL, GUYANA, RIO TACUTU C80
60°45.1W	4°16.4N	13/ 6/73	14°04'23	82-272	-	BRAZIL, GUYANA, RIO TACUTU C90
60°25.0W	9°57.4N	9/ 6/73	15°19'22	10-190	-182	TRINIDAD, VENEZUELA, MOUTH OF ORINOCO C60
60°00.6W	9°25.2N	9/ 6/73	15°19'33	81-254	-	GUYANA COAST C80
60°59.6W	10°40.2N	9/ 6/73	15°19'07	81-252	-	TRINIDAD C60
60°29.9W	10°02.8N	9/ 6/73	15°19'20	81-253	-	GUYANA COAST C80
59°37.2W	21°05.2S	14/ 6/73	15°03'42	04-377	-345	PARAGUAY C95
59°16.8W	10°15.6S	11/ 6/73	15°34'20	16-110	-110	BRAZIL, RIO JURUENA C2C
59°28.0W	10°02.1S	11/ 6/73	15°34'15	82-104	-	BRAZIL, SERRA DO NORTE
59°14.1W	10°19.7S	11/ 6/73	15°34'21	82-105	-	BRAZIL, SERRA DO NORTE
59°00.6W	10°37.2S	11/ 6/73	15°34'27	82-106	-	BRAZIL, SERRA DO NORTE
59°53.7W	9°28.2S	11/ 6/73	15°34'04	16-108	-108	BRAZIL, SERRA DO NORTE C20
59°35.2W	9°51.5S	11/ 6/73	15°34'12	16-109	-109	BRAZIL, SERRA DO NORTE C20
59°55.3W	9°27.1S	11/ 6/73	15°34'03	82-102	-	BRAZIL, SERRA DO NORTE
59°41.5W	9°44.6S	11/ 6/73	15°34'09	82-103	-	BRAZIL, SERRA DO NORTE
59°00.0W	1°51.2N	13/ 6/73	14°05'12	16-308	-291	BRAZIL, GUYANA, AMUKU MTS. C95
59°02.3W	1°53.7N	13/ 6/73	14°05'10	82-280	-	BRAZIL, C100
59°36.2W	2°41.2N	13/ 6/73	14°04'56	16-306	-289	BRAZIL, GUYANA, KANUKU MTS. C90
59°17.8W	2°16.2N	13/ 6/73	14°05'04	16-307	-290	BRAZIL, GUYANA, AMUKU MTS. C90
59°42.8W	2°48.4N	13/ 6/73	14°04'53	82-277	-	BRAZIL, C100
59°29.6W	2°32.4N	13/ 6/73	14°04'59	82-278	-	BRAZIL, C100
59°15.8W	2°12.2N	13/ 6/73	14°05'04	82-279	-	BRAZIL, C100
59°53.7W	3°03.4N	13/ 6/73	14°04'48	16-305	-288	BRAZIL, GUYANA, KANUKU MTS. C90
59°56.0W	3°05.2N	13/ 6/73	14°04'47	82-276	-	BRAZIL, C100
59°03.0W	8°10.0N	9/ 6/73	15°19'58	10-192	-184	GUYANA COAST C60
59°31.6W	8°47.7N	9/ 6/73	15°19'45	81-255	-	GUYANA COAST C50
59°43.8W	9°04.3N	9/ 6/73	15°19'40	10-191	-183	VENEZUELA, MOUTH OF ORINOCO, GUYANA C20

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
58°02.9W	22°46.1S	14/ 6/73	15°04'18	04-379	-347	CLOUDS OVER PARAGUAY C58
58°50.1W	21°57.6S	14/ 6/73	15°04'00	04-378	-346	CLOUDS OVER PARAGUAY C55
58°40.2W	11°02.2S	11/ 6/73	15°34'36	16-112	-112	BRAZ IL, RIO JURUENA C2C
58°21.4W	11°25.6S	11/ 6/73	15°34'44	16-113	-113	BRAZ IL, RIO ARINOS, GELBA ARINOS
58°02.9W	11°49.2S	11/ 6/73	15°34'52	16-114	-114	BRAZ IL, RIO ARINOS, GELBA ARINOS C25
58°32.9W	11°12.0S	11/ 6/73	15°34'39	82-108	-	BRAZ IL, RIO JURUENA
58°19.4W	11°29.4S	11/ 6/73	15°34'45	82-109	-	BRAZ IL, RIO JURUENA
58°05.6W	11°46.7S	11/ 6/73	15°34'51	82-110	-	BRAZ IL, RIO JURUENA
58°58.3W	10°39.2S	11/ 6/73	15°34'28	16-111	-111	BRAZ IL, RIO JURUENA C2C
58°46.8W	10°54.6S	11/ 6/73	15°34'33	82-107	-	BRAZ IL, SERRA DO NORTE
58°09.9W	0°41.2N	13/ 6/73	14°05'34	82-284	-	BRAZ IL, RIO TROMBETA C7C
58°42.8W	1°29.0N	13/ 6/73	14°05'20	16-309	-292	BRAZ IL, GUYANA, AMUKU MTS. C95
58°25.4W	1°05.5N	13/ 6/73	14°05'28	16-310	-293	BRAZ IL, RIO TROMBETAS C70
58°49.4W	1°36.7N	13/ 6/73	14°05'16	82-281	-	BRAZ IL, AMUKU MTS. C95
58°36.6W	1°20.1N	13/ 6/73	14°05'22	82-282	-	BRAZ IL, AMUKU MTS. C50
58°23.7W	1°02.8N	13/ 6/73	14°05'28	82-283	-	BRAZ IL, AMUKU MTS. C70
58°22.0W	7°16.0N	9/ 6/73	15°20'16	10-193	-185	GUYANA, COASTAL AREA, GEORGETOWN C70
57°14.8W	23°37.5S	14/ 6/73	15°04'36	04-380	-348	CLOUDS OVER PARAGUAY C58
57°44.2W	12°12.6S	11/ 6/73	15°35'00	16-115	-115	BRAZ IL, RIO ARINOS C25
57°25.4W	12°36.2S	11/ 6/73	15°35'08	16-116	-116	BRAZ IL, RIO ARINOS C30
57°06.9W	12°59.1S	11/ 6/73	15°35'16	16-117	-117	BRAZ IL, RIO ARINOS C35
57°51.7W	12°04.2S	11/ 6/73	15°34'57	82-111	-	BRAZ IL, GELBA ARINOS, RIO ARINOS
57°37.6W	12°21.7S	11/ 6/73	15°35'03	82-112	-	BRAZ IL, GELBA ARINOS, RIO ARINOS C20
57°23.7W	12°39.0S	11/ 6/73	15°35'09	82-113	-	BRAZ IL, RIO ARINOS C2C
57°09.9W	12°56.3S	11/ 6/73	15°35'15	82-114	-	BRAZ IL, RIO ARINOS C15
57°31.3W	0°04.0S	13/ 6/73	14°05'52	16-313	-296	BRAZ IL, RIO TROMBETAS C80
57°13.5W	0°27.8S	13/ 6/73	14°06'00	16-314	-297	BRAZ IL, RIO TROMBETAS C50
57°30.3W	0°06.3S	13/ 6/73	14°05'52	82-287	-	BRAZ IL, C90
57°17.1W	0°24.1S	13/ 6/73	14°05'58	82-288	-	BRAZ IL, C90
57°04.0W	0°41.8S	13/ 6/73	14°06'04	82-289	-	BRAZ IL, C95
57°58.0W	0°23.4N	13/ 6/73	14°05'40	16-311	-294	BRAZ IL, RIO TROMBETAS C70
57°49.1W	0°13.7N	13/ 6/73	14°05'44	16-312	-295	BRAZ IL, RIO TROMBETAS C80
57°56.7W	0°20.6N	13/ 6/73	14°05'40	82-285	-	BRAZ IL, RIO TROMBETA C7C
57°43.5W	0°07.2N	13/ 6/73	14°05'46	82-286	-	BRAZ IL, RIO TROMBETA C8C
56°26.4W	24°26.8S	14/ 6/73	15°04'54	04-381	-349	PARAGUAY C95
56°09.9W	14°09.1S	11/ 6/73	15°35'40	16-120	-120	BRAZ IL, PLANALTO DO MATO GROSSO C30
56°13.5W	14°05.6S	11/ 6/73	15°35'38	82-118	-	BRAZ IL, PLANALTO DO MATO GROSSO C30
56°47.8W	13°22.5S	11/ 6/73	15°35'24	16-118	-118	BRAZ IL, DIAMANTINO C35
56°29.0W	13°45.7S	11/ 6/73	15°35'32	16-119	-119	BRAZ IL, DIAMANTINO C35
56°55.7W	13°13.7S	11/ 6/73	15°35'21	82-115	-	BRAZ IL, DIAMANTINO C15
56°41.9W	13°31.0S	11/ 6/73	15°35'26	82-116	-	BRAZ IL, DIAMANTINO C15
56°27.7W	13°48.3S	11/ 6/73	15°35'32	82-117	-	BRAZ IL, DIAMANTINO C30
56°02.3W	2°05.5S	13/ 6/73	14°06'32	16-318	-301	BRAZ IL, RIO AMAZON C50
56°37.9W	1°17.9S	13/ 6/73	14°06'16	16-316	-299	BRAZ IL, RIO AMAZON C55
56°20.1W	1°42.1S	13/ 6/73	14°06'24	16-317	-300	BRAZ IL, RIO AMAZON C50
56°50.4W	1°01.1S	13/ 6/73	14°06'10	82-290	-	BRAZ IL, C98
56°37.3W	1°19.7S	13/ 6/73	14°06'16	82-291	-	BRAZ IL, C98
56°24.1W	1°37.8S	13/ 6/73	14°06'22	82-292	-	BRAZ IL, C98
56°10.9W	1°55.4S	13/ 6/73	14°06'28	82-293	-	BRAZ IL, C90
56°56.0W	0°52.3S	13/ 6/73	14°06'08	16-315	-298	BRAZ IL, RIO AMAZON C55
55°36.6W	25°17.4S	14/ 6/73	15°05'12	04-382	-350	PARAGUAY, NE OF ASUNCION
55°12.9W	15°16.7S	11/ 6/73	15°36'04	16-123	-123	BRAZ IL, PLANALTO DO MATO GROSSO C30
55°17.2W	15°12.7S	11/ 6/73	15°36'02	82-122	-	BRAZ IL, PLANALTO DO MATO GROSSO C40
55°02.7W	15°30.7S	11/ 6/73	15°36'08	82-123	-	BRAZ IL, PLANALTO DO MATO GROSSO C40
55°50.8W	14°31.4S	11/ 6/73	15°35'48	16-121	-121	BRAZ IL, PLANALTO DO MATO GROSSO C30
55°32.0W	14°53.8S	11/ 6/73	15°35'56	16-122	-122	BRAZ IL, PLANALTO DO MATO GROSSO C30
55°59.4W	14°22.6S	11/ 6/73	15°35'44	82-119	-	BRAZ IL, PLANALTO DO MATO GROSSO C30
55°45.5W	14°38.8S	11/ 6/73	15°35'50	82-120	-	BRAZ IL, PLANALTO DO MATO GROSSO C40
55°31.3W	14°55.4S	11/ 6/73	15°35'56	82-121	-	BRAZ IL, PLANALTO DO MATO GROSSO C40
55°08.9W	3°14.2S	13/ 6/73	14°06'56	16-321	-304	BRAZ IL, RIO TOPAJOS C80
55°17.8W	3°04.0S	13/ 6/73	14°06'52	82-297	-	BRAZ IL, RIO TOPAJOS C5C
55°04.6W	3°21.0S	13/ 6/73	14°06'58	82-298	-	BRAZ IL, RIO TOPAJOS C5C
55°44.5W	2°29.1S	13/ 6/73	14°06'40	16-319	-302	BRAZ IL, RIO TOPAJOS C80
55°26.7W	2°52.5S	13/ 6/73	14°06'48	16-320	-303	BRAZ IL, RIO TOPAJOS C80
55°57.7W	2°12.9S	13/ 6/73	14°06'34	82-294	-	BRAZ IL, C90
55°44.2W	2°30.4S	13/ 6/73	14°06'40	82-295	-	BRAZ IL, C80
55°31.0W	2°48.2S	13/ 6/73	14°06'46	82-296	-	BRAZ IL, RIO TOPAJOS C6C
54°33.3W	4°01.8S	13/ 6/73	14°07'12	16-323	-306	BRAZ IL, RIO IRIRI C5C
54°15.5W	4°25.4S	13/ 6/73	14°07'20	16-324	-307	BRAZ IL, RIO IRIRI C5C
54°24.8W	4°14.0S	13/ 6/73	14°07'15	82-301	-	BRAZ IL, RIO IRIRI C30
54°11.6W	4°31.7S	13/ 6/73	14°07'21	82-302	-	BRAZ IL, RIO IRIRI C25

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
54°51.1W	3°37.5S	13/ 6/73	14°07'04	16-322	-305	BRAZIL, RIO TOPAJOS C7C
54°51.5W	3°38.6S	13/ 6/73	14°07'03	82-299	-	BRAZIL, RIO TOPAJOS C5C
54°37.9W	3°56.4S	13/ 6/73	14°07'09	82-300	-	BRAZIL, RIO IRIRI C50
53°03.7W	6°00.2S	13/ 6/73	14°07'52	16-328	-311	BRAZIL, RIO IRIRI
53°39.6W	5°13.0S	13/ 6/73	14°07'36	16-326	-309	BRAZIL, RIO IRIRI
53°21.8W	5°26.6S	13/ 6/73	14°07'44	16-327	-310	BRAZIL, RIO IRIRI
53°44.9W	5°06.5S	13/ 6/73	14°07'33	82-304	-	BRAZIL, RIO IRIRI C15
53°31.4W	5°24.6S	13/ 6/73	14°07'39	82-305	-	BRAZIL
53°18.2W	5°42.2S	13/ 6/73	14°07'45	82-306	-	BRAZIL
53°04.7W	5°59.8S	13/ 6/73	14°07'51	82-307	-	BRAZIL
53°57.4W	4°49.1S	13/ 6/73	14°07'28	16-325	-308	BRAZIL, RIO IRIRI C5C
53°58.1W	4°49.3S	13/ 6/73	14°07'27	82-303	-	BRAZIL, RIO IRIRI C20
52°09.3W	7°11.3S	13/ 6/73	14°08'16	16-331	-314	BRAZIL, SERRA DOS GUARDUS, RIO XINGU
52°11.0W	7°10.4S	13/ 6/73	14°08'15	82-311	-	BRAZIL, RIO XINGU, SERRA DOS GUARDUS
52°45.6W	6°24.1S	13/ 6/73	14°08'00	16-329	-312	BRAZIL, RIO XINGU
52°27.8W	6°47.6S	13/ 6/73	14°08'08	16-330	-313	BRAZIL, SERRA DOS GUARDUS, RIO XINGU
52°51.5W	6°17.5S	13/ 6/73	14°07'57	82-308	-	BRAZIL
52°38.3W	6°34.8S	13/ 6/73	14°08'03	82-309	-	BRAZIL, RIO XINGU
52°24.5W	6°52.7S	13/ 6/73	14°08'09	82-310	-	BRAZIL, RIO XINGU SERRA DOS GUARDUS
52°34.0W	5°56.1N	10/ 6/73	14°38'14	10-275	-259	FRENCH GUIANA, ATLANTIC OCEAN C2C
52°15.9W	5°32.2N	10/ 6/73	14°38'22	10-276	-260	FRENCH GUIANA, CAYENNE, ATLANTIC OCEAN C30
52°51.8W	6°15.6N	10/ 6/73	14°38'06	10-274	-258	FRENCH GUIANA, ATLANTIC OCEAN C2C
52°12.9W	17°15.2N	12/ 6/73	13°09'18	16-186	-178	ATLANTIC OCEAN, CLOUDS
51°15.3W	8°22.2S	13/ 6/73	14°08'40	16-334	-317	BRAZIL, SERRA DOS MOTAO
51°30.4W	8°03.1S	13/ 6/73	14°08'33	82-314	-	BRAZIL, SERRA DOS MOTAO DOS GUARDUS
51°17.2W	8°20.6S	13/ 6/73	14°08'39	82-315	-	BRAZIL, SERRA DOS MOTAO
51°03.4W	8°38.6S	13/ 6/73	14°08'45	82-316	-	BRAZIL, SERRA DOS MOTAO
51°51.2W	7°35.2S	13/ 6/73	14°08'24	16-332	-315	BRAZIL, SERRA DOS GUARDUS, RIO FRESCO
51°33.4W	7°58.6S	13/ 6/73	14°08'32	16-333	-316	BRAZIL, SERRA DOS MOTAO
51°57.4W	7°28.2S	13/ 6/73	14°08'21	82-312	-	BRAZIL, RIO FRESCO SERRA DOS GUARDUS
51°43.9W	7°45.6S	13/ 6/73	14°08'27	82-313	-	BRAZIL, RIO FRESCO SERRA DOS GUARDUS
51°04.4W	3°57.5N	10/ 6/73	14°38'54	10-280	-264	BRAZIL, ATLANTIC OCEAN C40
51°40.0W	4°44.6N	10/ 6/73	14°38'38	10-278	-262	FRENCH GUIANA, CAYENNE, BRAZIL, ATLANTIC OCEAN C40
51°22.2W	4°21.0N	10/ 6/73	14°38'46	10-279	-263	BRAZIL, ATLANTIC OCEAN C40
51°58.1W	5°08.6N	10/ 6/73	14°38'30	10-277	-261	FRENCH GUIANA, CAYENNE, ATLANTIC OCEAN C30
51°29.4W	16°30.2N	12/ 6/73	13°09'36	16-187	-179	ATLANTIC OCEAN, CLOUDS
50°38.7W	9°09.3S	13/ 6/73	14°08'56	16-336	-319	BRAZIL, RIO ARAGUARA
50°20.2W	9°32.5S	13/ 6/73	14°09'04	16-337	-320	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
50°01.8W	9°56.5S	13/ 6/73	14°09'12	16-338	-321	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
50°36.4W	9°13.1S	13/ 6/73	14°08'57	82-318	-	BRAZIL, SERRA DOS MOTAO
50°22.9W	9°30.8S	13/ 6/73	14°09'02	82-319	-	BRAZIL, RIO ARAGUARA
50°09.0W	9°48.2S	13/ 6/73	14°09'08	82-320	-	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
50°56.3W	8°45.6S	13/ 6/73	14°08'48	16-335	-318	BRAZIL, SERRA DOS MOTAO
50°49.9W	8°55.7S	13/ 6/73	14°08'51	82-317	-	BRAZIL, SERRA DOS MOTAO
50°10.7W	2°46.1N	10/ 6/73	14°39'18	10-283	-267	BRAZIL, ATLANTIC OCEAN ILHA DE MARCA
50°46.3W	3°33.6N	10/ 6/73	14°39'02	10-281	-265	BRAZIL, ATLANTIC OCEAN C5C
50°28.5W	3°05.6N	10/ 6/73	14°39'10	10-282	-266	BRAZIL, ATLANTIC OCEAN ILHA DE MARCA C50
50°14.9W	13°29.2N	12/ 6/73	13°10'12	16-189	-181	ATLANTIC OCEAN, CLOUDS
50°44.9W	15°35.0N	12/ 6/73	13°09'54	16-188	-180	ATLANTIC OCEAN, CLOUDS
49°12.0W	22°07.6S	11/ 6/73	15°38'28	16-124	-124	BRAZIL, RIO TIETE, BAURIL C80
49°06.4W	11°07.0S	13/ 6/73	14°09'36	16-341	-324	BRAZIL, RIO TOCANTINS, ILHA DO BANANAL
49°00.5W	11°15.6S	13/ 6/73	14°09'38	82-325	-	BRAZIL, RIO TOCANTINS
49°43.3W	10°20.0S	13/ 6/73	14°09'20	16-339	-322	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
49°25.2W	10°43.4S	13/ 6/73	14°09'28	16-340	-323	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
49°55.5W	10°05.7S	13/ 6/73	14°09'14	82-321	-	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
49°41.7W	10°23.2S	13/ 6/73	14°09'20	82-322	-	BRAZIL, RIO ARAGUARA ILHA DO BANANAL
49°28.1W	10°40.6S	13/ 6/73	14°09'26	82-323	-	BRAZIL, ILHA DO BANANAL
49°14.3W	10°58.1S	13/ 6/73	14°09'32	82-324	-	BRAZIL, ILHA DO BANANAL
49°35.1W	1°58.6N	10/ 6/73	14°39'34	10-285	-269	BRAZIL, MOUTH OF AMAZON
49°52.9W	2°22.2N	10/ 6/73	14°39'26	10-284	-268	BRAZIL, ATLANTIC OCEAN ILHA DE MARCA
49°17.9W	13°54.2N	12/ 6/73	13°10'30	16-190	-182	ATLANTIC OCEAN, CLOUDS
48°10.4W	23°15.7S	11/ 6/73	15°38'52	16-127	-127	BRAZIL, JURUMIRIM RES. C75
48°17.9W	23°04.5S	11/ 6/73	15°38'48	82-126	-	BRAZIL, JURUMIRIM RES., RIO TIETE C50
48°01.6W	23°21.5S	11/ 6/73	15°38'54	82-127	-	BRAZIL, JURUMIRIM RES. C5C
48°50.6W	22°30.3S	11/ 6/73	15°38'36	16-125	-125	BRAZIL, JURUMIRIM RES., RIO TIETE C80

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A R+W -FRAME	LOCATION AND COMMENTS
48°49.6W	22°32.4S	11/ 6/73	15°38'36	82-124	-	BRAZIL, RIO TIETE, BAUM
48°33.8W	22°48.9S	11/ 6/73	15°38'42	82-125	-	BRAZIL, JURUMIRIM RES., RIO TIETE C50
48°10.7W	12°17.2S	13/ 6/73	14°10'00	16-344	-327	BRAZIL, RIO TOCANTINS, RIO PARANA
48°18.9W	12°07.8S	13/ 6/73	14°09'56	82-328	-	BRAZIL, RIO TOCANTINS
48°05.4W	12°25.0S	13/ 6/73	14°10'02	82-329	-	BRAZIL, RIO TOCANTINS RIO PARANA
48°47.9W	11°30.4S	13/ 6/73	14°09'44	16-342	-325	BRAZIL, RIO TOCANTINS
48°29.5W	11°53.6S	13/ 6/73	14°09'52	16-343	-326	BRAZIL, RIO TOCANTINS
48°46.6W	11°33.0S	13/ 6/73	14°09'44	82-326	-	BRAZIL, RIO TOCANTINS
48°32.8W	11°50.3S	13/ 6/73	14°09'50	82-327	-	BRAZIL, RIO TOCANTINS
48°37.7W	12°52.7N	12/ 6/73	13°10'48	16-191	-183	ATLANTIC OCEAN, CLOUDS
47°14.0W	24°11.3S	11/ 6/73	15°39'12	82-130	-	BRAZIL, COAST AT PERUIBE C40
47°47.0W	23°36.5S	11/ 6/73	15°39'00	16-128	-128	BRAZIL, SAO PAULO, SOROCABA C80
47°25.5W	23°58.6S	11/ 6/73	15°39'08	16-129	-129	BRAZIL, ATLANTIC COAST AT PERUIBE, SAO PAULO C80
47°46.0W	23°38.5S	11/ 6/73	15°39'00	82-128	-	BRAZIL, SOROCABA C40
47°30.2W	23°54.8S	11/ 6/73	15°39'06	82-129	-	BRAZIL, SOROCABA C40
47°43.3W	22°42.0S	11/ 6/73	15°38'44	16-126	-126	BRAZIL, JURUMIRIM RES., RIO TIETE C75
47°33.1W	13°03.8S	13/ 6/73	14°10'16	16-346	-329	BRAZIL, RIO TOCANTINS, RIO PARANA
47°14.3W	13°27.2S	13/ 6/73	14°10'24	16-347	-330	BRAZIL, RIO TOCANTINS, RIO PARANA
47°23.2W	13°17.2S	13/ 6/73	14°10'20	82-332	-	BRAZIL, RIO TOCANTINS RIO PARANA
47°09.1W	13°34.5S	13/ 6/73	14°10'26	82-333	-	BRAZIL, RIO TOCANTINS RIO PARANA
47°51.9W	12°40.6S	13/ 6/73	14°10'08	16-345	-328	BRAZIL, RIO TOCANTINS, RIO PARANA
47°51.2W	12°42.6S	13/ 6/73	14°10'08	82-330	-	BRAZIL, RIO TOCANTINS RIO PARANA
47°37.1W	12°59.5S	13/ 6/73	14°10'14	82-331	-	BRAZIL, RIO TOCANTINS RIO PARANA
47°12.4W	11°12.7N	12/ 6/73	13°11'24	16-193	-185	ATLANTIC OCEAN, CLOUDS
47°54.2W	12°05.4N	12/ 6/73	13°11'06	16-192	-184	ATLANTIC OCEAN, CLOUDS
46°57.9W	24°27.6S	11/ 6/73	15°39'18	82-131	-	BRAZIL, COAST AT PERUIBE C40
46°41.4W	24°43.9S	11/ 6/73	15°39'24	82-132	-	BRAZIL, COAST AT PERUIBE
46°36.4W	14°13.6S	13/ 6/73	14°10'40	16-349	-332	BRAZIL, ESPIGAO MESTRE C15
46°17.3W	14°37.0S	13/ 6/73	14°10'48	16-350	-333	BRAZIL, ESPIGAO MESTRE C15
46°40.7W	14°05.1S	13/ 6/73	14°10'38	82-335	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
46°26.5W	14°26.4S	13/ 6/73	14°10'44	82-336	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
46°12.4W	14°43.7S	13/ 6/73	14°10'50	82-337	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
46°55.2W	13°50.5S	13/ 6/73	14°10'32	16-348	-331	BRAZIL, ESPIGAO MESTRE RIO PARANA
46°54.9W	13°51.8S	13/ 6/73	14°10'32	82-334	-	BRAZIL, RIO TOCANTINS RIO PARANA
46°30.5W	10°19.8N	12/ 6/73	13°11'42	16-194	-186	ATLANTIC OCEAN, CLOUDS
45°00.2W	16°05.4S	13/ 6/73	14°11'20	16-354	-337	BRAZIL, RIO SAO FRANCISCO, SAO FRANCISCO C20
45°02.5W	16°07.8S	13/ 6/73	14°11'19	82-342	-	BRAZIL, RIO SAO FRANCISCO
45°58.2W	15°00.2S	13/ 6/73	14°10'56	16-351	-334	BRAZIL, ESPIGAO MESTRE C20
45°39.1W	15°23.1S	13/ 6/73	14°11'04	16-352	-335	BRAZIL, ESPIGAO MESTRE C20
45°19.6W	15°46.2S	13/ 6/73	14°11'12	16-353	-336	BRAZIL, RIO SAO FRANCISCO, SAO FRANCISCO C20
45°58.2W	15°00.5S	13/ 6/73	14°10'56	82-338	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
45°44.0W	15°18.2S	13/ 6/73	14°11'01	82-339	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
45°29.5W	15°35.3S	13/ 6/73	14°11'07	82-340	-	BRAZIL, ESPIGAO MESTRE RIO PARANA
45°15.4W	15°52.4S	13/ 6/73	14°11'13	82-341	-	BRAZIL, RIO SAO FRANCISCO
45°08.1W	8°33.8N	12/ 6/73	13°12'18	16-196	-188	ATLANTIC OCEAN, CLOUDS EQUATOR EAST OF BRAZIL
45°49.3W	9°26.9N	12/ 6/73	13°12'00	16-195	-187	ATLANTIC OCEAN, CLOUDS
44°01.5W	17°18.5S	13/ 6/73	14°11'44	16-357	-340	BRAZIL, RIO SAO FRANCISCO C60
44°03.8W	17°16.8S	13/ 6/73	14°11'43	82-346	-	BRAZIL, SERRA DO ESPINHACO C20
44°41.1W	16°32.3S	13/ 6/73	14°11'28	16-355	-338	BRAZIL, RIO SAO FRANCISCO, SAO FRANCISCO C30
44°21.3W	16°55.4S	13/ 6/73	14°11'36	16-356	-339	BRAZIL, RIO SAO FRANCISCO, SAO FRANCISCO C40
44°48.0W	16°25.1S	13/ 6/73	14°11'25	82-343	-	BRAZIL, RIO SAO FRANCISCO
44°33.2W	16°42.4S	13/ 6/73	14°11'31	82-344	-	BRAZIL, RIO SAO FRANCISCO
44°18.7W	16°59.5S	13/ 6/73	14°11'37	82-345	-	BRAZIL, RIO SAO FRANCISCO
44°02.8W	11°33.4S	9/ 6/73	15°26'38	10-194	-186	BRAZIL, RIO SAO FRANCISCO, BAHIA STATE C90
44°27.2W	7°40.8N	12/ 6/73	13°12'36	16-197	-189	ATLANTIC OCEAN, CLOUDS
43°22.3W	18°04.1S	13/ 6/73	14°12'00	16-359	-342	BRAZIL, SERRA DO ESPINHACO C80
43°02.2W	18°27.0S	13/ 6/73	14°12'08	16-360	-343	BRAZIL, SERRA DO ESPINHACO C80
43°19.3W	18°08.2S	13/ 6/73	14°12'01	82-349	-	BRAZIL, SERRA DO ESPINHACO C60
43°04.5W	18°25.4S	13/ 6/73	14°12'07	82-350	-	BRAZIL, SERRA DO ESPINHACO C70
43°42.1W	17°41.2S	13/ 6/73	14°11'52	16-358	-341	BRAZIL, SERRA DO ESPINHACO C80
43°45.0W	17°33.5S	13/ 6/73	14°11'49	82-347	-	BRAZIL, SERRA DO ESPINHACO C40
43°34.2W	17°51.1S	13/ 6/73	14°11'55	82-348	-	BRAZIL, SERRA DO ESPINHACO C60
43°21.0W	12°25.8S	9/ 6/73	15°26'56	10-195	-187	BRAZIL, RIO SAO FRANCISCO, BAHIA STATE C90
43°15.7W	12°33.4S	9/ 6/73	15°26'58	81-257	-	BRAZIL, BAHIA STATE C95
43°46.0W	11°55.8S	9/ 6/73	15°26'45	81-256	-	BRAZIL, BAHIA STATE C90
43°46.4W	6°47.5N	12/ 6/73	13°12'54	16-198	-190	ATLANTIC OCEAN, CLOUDS

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
43°28.6W	6°23.8N	12/ 6/73	13°13'02	16-199	-191	ATLANTIC OCEAN, CLOUDS
43°10.4W	6°00.2N	12/ 6/73	13°13'09	16-200	-192	ATLANTIC OCEAN, CLOUDS
42°22.3W	19°12.5S	13/ 6/73	14°12'24	16-362	-345	BRAZIL, SERRA DO ESPINHACO C70
42°01.9W	19°35.2S	13/ 6/73	14°12'32	16-363	-346	BRAZIL, SERRA DO CAPARAO C60
42°19.4W	19°16.6S	13/ 6/73	14°12'25	82-353	-	BRAZIL, SERRA DO ESPINHACO C70
42°04.2W	19°33.6S	13/ 6/73	14°12'31	82-354	-	BRAZIL, SERRA DO ESPINHACO C60
42°42.4W	18°49.8S	13/ 6/73	14°12'16	16-361	-344	BRAZIL, SERRA DO ESPINHACO C70
42°49.4W	18°42.5S	13/ 6/73	14°12'13	82-351	-	BRAZIL, SERRA DO ESPINHACO C80
42°34.5W	18°59.6S	13/ 6/73	14°12'19	82-352	-	BRAZIL, SERRA DO ESPINHACO C80
42°38.8W	13°18.4S	9/ 6/73	15°27'14	10-196	-188	BRAZIL, RIO, SAO FRANCISCO, BAHIA STATE C90
42°45.7W	13°10.8S	9/ 6/73	15°27'11	81-258	-	BRAZIL, BAHIA STATE C95
42°15.1W	13°46.3S	9/ 6/73	15°27'24	81-259	-	BRAZIL, BAHIA STATE C55
42°16.7W	4°45.0N	12/ 6/73	13°13'34	16-203	-195	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
42°52.3W	5°36.5N	12/ 6/73	13°13'18	16-201	-193	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
42°34.5W	5°12.5N	12/ 6/73	13°13'25	16-202	-194	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
41°45.0W	29°30.0S	11/ 6/73	15°41'30	82-133	-	ATLANTIC OCEAN C50
41°35.0W	29°35.0S	11/ 6/73	15°41'34	82-134	-	ATLANTIC OCEAN C50
41°25.0W	29°40.0S	11/ 6/73	15°41'38	82-135	-	ATLANTIC OCEAN C90
41°21.4W	20°20.4S	13/ 6/73	14°12'48	16-365	-348	BRAZIL, SERRA DO CAPARAO C40
41°01.3W	20°42.1S	13/ 6/73	14°12'56	16-366	-349	BRAZIL, MOUTH OF PARAIBA DO SOL RIVER C30
41°35.0W	20°11.0S	13/ 6/73	14°12'43	82-356	-	BRAZIL, SERRA DO CAPARAO C40
41°20.0W	20°27.0S	13/ 6/73	14°12'49	82-357	-	BRAZIL, SERRA DO CAPARAO C20
41°05.0W	20°43.0S	13/ 6/73	14°12'55	82-358	-	BRAZIL, COAST AT ESPRITO
41°41.8W	19°57.8S	13/ 6/73	14°12'40	16-364	-347	BRAZIL, SERRA DO CAPARAO C50
41°49.0W	19°50.7S	13/ 6/73	14°12'37	82-355	-	BRAZIL, SERRA DO CAPARAO C60
41°13.1W	15°02.8S	9/ 6/73	15°27'50	10-198	-190	BRAZIL, RIO, PARDO RIVER, BAHIA STATE C40
41°13.8W	15°03.0S	9/ 6/73	15°27'50	81-261	-	BRAZIL, BAHIA STATE C95
41°56.0W	14°10.9S	9/ 6/73	15°27'32	10-197	-189	BRAZIL, RIO, PARDO RIVER, BAHIA STATE C90
41°44.8W	14°25.6S	9/ 6/73	15°27'37	81-260	-	BRAZIL, BAHIA STATE C95
41°23.0W	3°38.0N	12/ 6/73	13°13'57	16-206	-198	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
41°05.2W	3°14.1N	12/ 6/73	13°14'06	16-207	-199	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
41°58.9W	4°25.5N	12/ 6/73	13°13'41	16-204	-196	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
41°40.8W	4°01.6N	12/ 6/73	13°13'50	16-205	-197	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
40°38.8W	21°08.0S	13/ 6/73	14°13'04	16-367	-350	BRAZIL, MOUTH OF PARAIBA DO SOL RIVER C30
40°15.9W	21°35.2S	13/ 6/73	14°13'12	16-368	-351	BRAZIL, MOUTH OF PARAIBA DO SOL RIVER C20
40°51.0W	21°01.0S	13/ 6/73	14°13'01	82-359	-	BRAZIL, COAST AT ESPRITO SANTO
40°35.0W	21°16.0S	13/ 6/73	14°13'07	82-360	-	BRAZIL, COAST AT ESPRITO SANTO
40°18.0W	21°33.0S	13/ 6/73	14°13'13	82-361	-	ATLANTIC OCEAN
40°04.0W	21°48.0S	13/ 6/73	14°13'19	82-362	-	ATLANTIC OCEAN
40°13.0W	16°17.0S	9/ 6/73	15°28'16	81-263	-	SOUTH ATLANTIC OCEAN
40°29.6W	15°55.1S	9/ 6/73	15°28'08	10-199	-191	BRAZIL, RIO, BAHIA STATE C90
40°43.1W	15°40.1S	9/ 6/73	15°28'03	81-262	-	BRAZIL, BAHIA STATE C95
40°47.4W	2°50.4N	12/ 6/73	13°14'13	16-208	-200	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
40°29.3W	2°26.5N	12/ 6/73	13°14'22	16-209	-201	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
40°11.8W	2°03.1N	12/ 6/73	13°14'29	16-210	-202	ATLANTIC OCEAN OFF BRAZIL, CLOUDS
39°37.5W	22°15.5S	13/ 6/73	14°13'28	16-370	-353	ATLANTIC OCEAN CLOUDS C20
39°16.4W	22°38.2S	13/ 6/73	14°13'36	16-371	-354	ATLANTIC OCEAN CLOUDS
39°49.0W	22°06.0S	13/ 6/73	14°13'25	82-363	-	ATLANTIC OCEAN
39°33.0W	22°21.0S	13/ 6/73	14°13'31	82-364	-	ATLANTIC OCEAN
39°18.0W	22°37.0S	13/ 6/73	14°13'37	82-365	-	ATLANTIC OCEAN
39°01.0W	22°53.0S	13/ 6/73	14°13'43	82-366	-	ATLANTIC OCEAN
39°57.0W	21°53.3S	13/ 6/73	14°13'20	16-369	-352	BRAZIL, MOUTH OF PARAIBA DO SOL RIVER C20
39°13.0W	17°31.0S	9/ 6/73	15°28'42	81-265	-	SOUTH ATLANTIC OCEAN
39°43.0W	16°54.0S	9/ 6/73	15°28'29	81-264	-	SOUTH ATLANTIC OCEAN
38°28.0W	23°28.0S	13/ 6/73	14°13'52	16-373	-356	ATLANTIC OCEAN CLOUDS
38°04.0W	23°50.0S	13/ 6/73	14°14'00	16-374	-357	ATLANTIC OCEAN CLOUDS
38°46.0W	23°10.0S	13/ 6/73	14°13'49	82-367	-	ATLANTIC OCEAN
38°30.0W	23°25.0S	13/ 6/73	14°13'55	82-368	-	ATLANTIC OCEAN
38°14.0W	23°42.0S	13/ 6/73	14°14'01	82-369	-	ATLANTIC OCEAN
38°55.4W	22°58.6S	13/ 6/73	14°13'44	16-372	-355	ATLANTIC OCEAN CLOUDS
37°41.0W	24°12.0S	13/ 6/73	14°14'08	16-375	-358	ATLANTIC OCEAN CLOUDS
37°40.0W	24°14.0S	13/ 6/73	14°14'13	82-371	-	ATLANTIC OCEAN
37°24.0W	24°30.0S	13/ 6/73	14°14'19	82-372	-	ATLANTIC OCEAN
37°57.0W	23°57.0S	13/ 6/73	14°14'07	82-370	-	ATLANTIC OCEAN
0°00.0W	0°00.0N	4/ 6/73	15°05'20	04-386	-351	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°05'26	04-387	-352	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°05'32	04-388	-353	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°05'38	04-389	-354	LUNAR CALIBRATION

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	S190A B+W -FRAME	LOCATION AND COMMENTS
0°00.0W	0°00.0N	4/ 6/73	15°05°44	04-390	-355	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°05°50	04-391	-356	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°05°56	04-392	-357	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°02	04-393	-358	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°08	04-394	-359	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°14	04-395	-360	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°20	04-396	-361	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°26	04-397	-362	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°32	04-398	-363	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°38	04-399	-364	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°44	04-400	-365	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°50	04-401	-366	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°06°56	04-402	-367	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°02	04-403	-368	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°08	04-404	-369	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°14	04-405	-370	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°20	04-406	-371	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°26	04-407	-372	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°32	04-408	-373	LUNAR CALIBRATION
0°00.0W	0°00.0N	4/ 6/73	15°07°38	04-409	-374	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°47°55	81-385	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°01	81-386	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°07	81-387	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°13	81-388	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°19	81-389	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°25	81-390	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°31	81-391	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°37	81-392	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°43	81-393	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°49	81-394	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°48°55	81-395	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°01	81-396	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°07	81-397	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°13	81-398	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°19	81-399	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°25	81-400	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°31	81-401	-	LUNAR CALIBRATION
0°00.0W	0°00.0N	14/ 6/73	14°49°37	81-402	-	LUNAR CALIBRATION

SKYLAB 3 PHOTOGRAPHIC INDEX

Abbreviations and symbols are explained on page 182.

SL-3

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
154°45.9W	50°05.0N	4/ 8/73	17°10'01	22-080	CLOUDS OVER PACIFIC, C-90
152°51.2W	50°08.8N	4/ 8/73	17°10'21	22-081	CLOUDS OVER PACIFIC OFF WASHINGTON, C-90
152°05.4W	50°10.3N	4/ 8/73	17°10'29	83-001	CLOUDS, OCEAN OFF PACIFIC COAST, 50N-155W, C-95
150°56.5W	50°10.5N	4/ 8/73	17°10'41	22-082	CLOUDS OVER PACIFIC OFF WASHINGTON, C-85
150°00.0W	50°00.0N	18/ 9/73	00°44'08	46-157	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°44'20	46-158	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°44'32	46-159	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°45'56	46-160	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°48'23	46-161	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°52'31	46-162	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°53'30	46-163	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°54'30	46-164	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°55'30	46-165	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°56'30	46-166	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°57'30	46-167	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°58'30	46-168	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	00°59'30	46-169	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°00'30	46-170	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°01'30	46-171	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°02'30	46-172	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°03'30	46-173	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°04'30	46-174	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°05'30	46-175	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°06'30	46-176	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°07'30	46-177	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°08'30	46-178	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°09'30	46-179	SOLAR INERTIAL PASS, STORM
150°00.0W	50°00.0N	18/ 9/73	01°10'30	46-180	SOLAR INERTIAL PASS, STORM
150°51.9W	50°11.1N	4/ 8/73	17°10'42	83-002	CLOUDS OFF PACIFIC COAST, C-90
149°01.8W	50°10.2N	4/ 8/73	17°11'01	22-083	CLOUDS OVER PACIFIC OFF WASHINGTON C-75
149°38.0W	50°11.1N	4/ 8/73	17°10'55	83-003	CLOUDS OFF PACIFIC COAST,
148°24.5W	50°10.3N	4/ 8/73	17°11'07	83-004	CLOUDS OFF PACIFIC COAST, C-45
147°06.8W	50°07.8N	4/ 8/73	17°11'21	22-084	CLOUDS OVER PACIFIC OFF WASHINGTON, C-75
147°11.0W	50°08.5N	4/ 8/73	17°11'20	83-005	CLOUDS OFF PACIFIC COAST, C-60
145°12.4W	50°03.4N	4/ 8/73	17°11'41	22-085	CLOUDS OVER PACIFIC OFF WASHINGTON, C-80
145°57.5W	50°06.0N	4/ 8/73	17°11'33	83-006	CLOUDS OFF PACIFIC COAST, C-80
144°44.0W	50°02.6N	4/ 8/73	17°11'46	83-007	CLOUDS OFF PACIFIC COAST, C-85
143°17.4W	49°56.8N	4/ 8/73	17°12'01	22-086	CLOUDS OVER PACIFIC OFF WASHINGTON, C-80
143°31.2W	49°58.3N	4/ 8/73	17°11'59	83-008	CLOUDS OFF PACIFIC COAST, C-80
142°18.4W	49°53.3N	4/ 8/73	17°12'11	83-009	CLOUDS OFF PACIFIC COAST, C-80
141°24.0W	49°48.4N	4/ 8/73	17°12'21	22-087	CLOUDS OVER PACIFIC OFF WASHINGTON, C-80
141°05.9W	49°47.4N	4/ 8/73	17°12'24	83-010	CLOUDS OFF PACIFIC COAST, C-80
139°31.6W	49°37.7N	4/ 8/73	17°12'41	22-088	CLOUDS OVER PACIFIC OFF WASHINGTON, C-85
139°53.4W	49°40.7N	4/ 8/73	17°12'37	83-011	CLOUDS OFF PACIFIC COAST, C-80
138°41.5W	49°33.1N	4/ 8/73	17°12'50	83-012	CLOUDS OFF PACIFIC COAST, C-90
137°39.9W	49°25.3N	4/ 8/73	17°13'01	22-089	CLOUDS OVER PACIFIC OFF WASHINGTON, C-90
137°30.3W	49°24.8N	4/ 8/73	17°13'03	83-013	CLOUDS OFF PACIFIC COAST, C-95
136°19.1W	49°15.6N	4/ 8/73	17°13'15	83-014	CLOUDS OFF PACIFIC COAST, C-98
135°51.8W	48°26.5N	8/ 8/73	15°56'31	22-300	CLOUDS OVER PACIFIC, C-95
135°48.2W	49°10.8N	4/ 8/73	17°13'21	22-090	CLOUDS OVER PACIFIC OFF WASHINGTON, C-90
135°08.6W	49°05.7N	4/ 8/73	17°13'28	83-015	CLOUDS OFF PACIFIC COAST, C-85
134°02.0W	48°06.7N	8/ 8/73	15°56'51	22-301	CLOUDS OVER PACIFIC OFF OREGON, C-80
133°58.7W	48°54.3N	4/ 8/73	17°13'41	22-091	CLOUDS OVER PACIFIC OFF WASHINGTON, C-95
133°58.4W	48°54.8N	4/ 8/73	17°13'41	83-016	CLOUDS OFF PACIFIC COAST, C-95
132°19.9W	47°43.3N	8/ 8/73	15°57'11	22-302	CLOUDS OVER PACIFIC OFF OREGON, C-80
132°10.6W	48°36.1N	4/ 8/73	17°14'01	22-092	CLOUDS OVER PACIFIC OFF WASHINGTON, C-95
132°49.2W	48°44.3N	4/ 8/73	17°13'54	83-017	CLOUDS OFF PACIFIC COAST, C-90
130°37.0W	47°18.9N	8/ 8/73	15°57'31	22-303	CLOUDS OVER PACIFIC OFF OREGON, C-90
130°29.6W	47°24.0N	8/ 8/73	15°57'31	83-285	PACIFIC OCEAN C-80
129°11.1W	47°00.0N	8/ 8/73	15°57'47	83-286	PACIFIC OCEAN C-80
128°25.2W	22°29.5N	10/ 9/73	20°02'27	85-360	PACIFIC OCEAN OFF MEXICO, C-100
128°55.8W	46°52.7N	8/ 8/73	15°57'51	22-304	CLOUDS OVER PACIFIC OFF OREGON, C-90
128°11.0W	50°05.7N	20/ 9/73	20°55'20	46-242	BRITISH COLUMBIA, VANCOUVER IS., C-35
127°50.3W	23°06.3N	10/ 9/73	20°02'40	85-361	PACIFIC OCEAN OFF MEXICO, C-100
127°14.7W	23°42.7N	10/ 9/73	20°02'53	85-362	PACIFIC OCEAN OFF MEXICO, C-100
127°15.3W	46°25.4N	8/ 8/73	15°58'11	22-305	CLOUDS OVER PACIFIC OFF OREGON, C-95

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
127°52.6W	46°36.1N	8/ 8/73	15°58'03	83-287	PACIFIC OCEAN, OFF OREGON, C-100
126°39.1W	24°19.1N	10/ 9/73	20°03'06	85-363	PACIFIC OCEAN OFF MEXICO, C-100
126°03.1W	24°55.2N	10/ 9/73	20°03'20	85-364	PACIFIC OCEAN OFF MEXICO, C-100
126°32.1W	46°12.7N	8/ 8/73	15°58'19	83-288	PACIFIC OCEAN, OFF OREGON, C-100
126°15.3W	49°59.8N	20/ 9/73	20°55'40	46-243	BRITISH COLUMBIA, VANCOUVER IS., C-90
125°26.6W	25°31.1N	10/ 9/73	20°03'33	85-365	PACIFIC OCEAN OFF MEXICO, C-100
125°28.5W	39°39.3N	11/ 9/73	20°59'29	34-335	PACIFIC OCEAN C-100
125°06.1W	42°10.6N	11/ 8/73	15°25'41	28-051	OREGON, YREKA, KALAMATH RIV. C-30
125°38.8W	45°55.9N	8/ 8/73	15°58'31	22-306	OREGON, C-98
125°13.1W	45°48.3N	8/ 8/73	15°58'36	83-289	OREGON, PACIFIC OCEAN, C-99
125°12.7W	47°05.2N	4/ 8/73	17°15'21	22-093	CLOUDS, WASHINGTON COAST, C-90
124°44.4W	3°25.0N	14/ 9/73	17°04'20	40-228	CLOUDS OVER PACIFIC, C-65
124°49.7W	26°06.9N	10/ 9/73	20°03'46	85-366	PACIFIC OCEAN OFF MEXICO, C-100
124°12.4W	26°42.8N	10/ 9/73	20°03'59	85-367	PACIFIC OCEAN OFF MEXICO, C-100
124°09.1W	40°21.8N	11/ 9/73	20°59'49	34-336	CALIFORNIA, FOREST FIRE, KALAMATH RIV., COST MTS. C-60
124°01.5W	45°24.6N	8/ 8/73	15°58'51	22-307	OREGON, WILLAMETTE VALLEY, MC MINNVILLE, C-70
124°53.6W	47°01.0N	4/ 8/73	17°15'25	83-018	CLOUDS, C-97
124°30.2W	48°02.4N	5/ 8/73	16°31'52	22-211	WASHINGTON, C-98
124°21.3W	49°52.0N	20/ 9/73	20°56'00	46-244	BRITISH COLUMBIA, C-100
123°34.8W	27°17.9N	10/ 9/73	20°04'12	85-368	PACIFIC OCEAN OFF MEXICO, C-100
123°42.1W	34°42.2N	13/ 9/73	19°31'32	40-190	PACIFIC OFF CALIFORNIA C-100
123°54.0W	34°34.6N	13/ 9/73	19°31'29	88-001	PACIFIC OCEAN OFF CALIFORNIA, C-100
123°04.5W	35°09.4N	13/ 9/73	19°31'43	88-002	PACIFIC OCEAN OFF CALIFORNIA, C-100
123°32.9W	37°59.1N	12/ 9/73	20°15'50	40-137	CALIFORNIA, SAN FRANCISCO, C-80
123°23.6W	38°05.2N	12/ 9/73	20°15'52	86-316	CALIFORNIA, C-85
123°28.6W	40°42.9N	11/ 9/73	20°55'59	34-337	CALIFORNIA, REDDING, CLAIR ENGLE LAKE, KALAMATH RIV. C-25
123°42.7W	40°36.3N	11/ 9/73	20°59'56	86-221	CALIFORNIA, MAD R., COAST RANGE, C-15
123°39.1W	41°30.1N	11/ 8/73	15°26'01	28-052	CALIFORNIA, COAST RANGE, YREKA, KALAMATH RIV. C-30
123°09.1W	41°16.4N	11/ 8/73	15°26'08	84-001	CALIFORNIA, KALAMATH R., HAPPY CAMP
123°54.9W	45°23.1N	8/ 8/73	15°58'52	83-290	OREGON
123°31.5W	46°38.1N	4/ 8/73	17°15'41	22-094	WASHINGTON, GREY'S HARBOR, C-85
123°49.3W	46°43.8N	4/ 8/73	17°15'37	83-019	WASHINGTON, WILLAPA HARBOR, LEADGETT'S POINT, C-92
123°30.6W	47°50.4N	5/ 8/73	16°32'03	83-177	WASHINGTON, C-98
122°15.4W	6°41.8N	14/ 9/73	17°05'26	40-229	CLOUDS OVER PACIFIC, C-50
122°56.6W	27°53.0N	10/ 9/73	20°04'25	85-369	PACIFIC OCEAN OFF MEXICO, C-100
122°18.0W	28°27.9N	10/ 9/73	20°04'38	85-370	PACIFIC OCEAN OFF MEXICO, C-100
122°32.9W	35°30.5N	13/ 9/73	19°31'52	40-191	PACIFIC OFF CALIFORNIA C-100
122°14.4W	35°44.0N	13/ 9/73	19°31'58	88-003	PACIFIC OCEAN OFF CALIFORNIA, C-100
122°55.0W	38°21.7N	12/ 9/73	20°16'00	40-138	CALIFORNIA, SAN PABLO BAY, CLEAR LAKE, VALLEJO C-30
122°16.7W	38°44.1N	12/ 9/73	20°16'10	40-139	CALIFORNIA, SACRAMENTO VALLEY, SACRAMENTO, LAKE BERRYESSA
122°58.9W	38°20.0N	12/ 9/73	20°15'59	86-317	CALIFORNIA, SAN PABLO BAY, NAPA, SANTA ROSA, C-35
122°33.9W	38°34.7N	12/ 9/73	20°16'06	86-318	CALIFORNIA, SAN PABLO BAY, LAKE BERRYESSA, CLEAR LAKE
122°08.2W	38°49.7N	12/ 9/73	20°16'12	86-319	CALIFORNIA, SACRAMENTO VALLEY, MARYSVILLE BUTTES, CLEAR LAKE
122°14.1W	40°48.0N	11/ 8/73	15°26'21	28-053	CALIFORNIA, MT. SHASTA, MT. LASSEN, WFO, SHASTA LAKE
122°14.4W	40°48.9N	11/ 8/73	15°26'21	84-003	CALIF., SACRAMENTO RW REDDING, SHASTA LAKE
122°47.7W	41°03.4N	11/ 9/73	21°00'09	34-338	CALIFORNIA, MT. SHASTA, WEED, REDDING, SHASTA LAKE
122°06.2W	41°24.0N	11/ 9/73	21°00'19	34-339	CALIFORNIA-OREGON, MT. SHASTA, KALAMATH FALLS, THULE LAKE
122°41.8W	41°02.5N	11/ 8/73	15°26'15	84-002	CALIF., CLAIR ENGLE LAKE, SHASTA LAKE, FRENCH GULCH
122°44.4W	41°05.8N	11/ 9/73	21°00'10	86-222	CALIFORNIA, SHASTA LAKE, CLAIR ENGLE LAKE, WEED, C-10
122°27.6W	44°52.3N	8/ 8/73	15°55'11	22-308	OREGON, WILLAMETTE RIVER, SALEM, CASCADE MTS., C-15
122°38.1W	44°56.7N	8/ 8/73	15°59'08	83-291	OREGON, SALEM, WILLAMETTE R., ALBANY
122°45.7W	46°25.7N	4/ 8/73	17°15'50	83-020	WASHINGTON, MT. ST. HELENS, C-80
122°45.7W	47°39.5N	5/ 8/73	16°32'12	22-212	WASHINGTON, C-100
122°15.7W	47°33.1N	5/ 8/73	16°32'17	83-178	WASHINGTON, C-100
122°27.6W	49°42.1N	20/ 9/73	20°56'20	46-245	BRITISH COLUMBIA, C-95
121°39.2W	29°02.7N	10/ 9/73	20°04'51	85-371	PACIFIC OCEAN OFF MEXICO, C-100

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OF POOR QUALITY

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
121°22.3W	36°18.1N	13/ 5/73	19°32'12	40-192	CALIFORNIA, SALINAS VALLEY, CLOUDS ON COAST, SANTA LUCIA MTS. C-40
121°23.3W	36°18.1N	13/ 9/73	19°32'12	88-004	CALIFORNIA, SALINAS R., SANTA LUCIA MTS., C-15
121°38.5W	39°06.2N	12/ 9/73	20°16'20	40-140	CALIFORNIA, SACRAMENTO VALLEY, FOLSOM LAKE, OROVILLE LAKE
121°00.0W	39°27.8N	12/ 9/73	20°16'30	40-141	CALIFORNIA, NEVADA, SIERRA NEVADA, LAKE TAHOE, DONNER PASS
121°42.8W	39°04.4N	12/ 9/73	20°16'19	86-320	CALIFORNIA, SACRAMENTO YUBA R., FEATHER P., SACRAMENTO R.
121°17.7W	39°18.5N	12/ 9/73	20°16'25	86-321	CALIFORNIA, MARYSVILLE, SIERRA NEVADA, OROVILLE RES., GRASS VALLEY
121°47.4W	40°35.0N	11/ 8/73	15°26'28	84-004	CALIF., MT. LARSEN NAT. PARK, SACRAMENTO RIVER REDDING
121°42.8W	40°21.2N	11/ 8/73	15°26'34	84-005	CALIF., MT. LARSEN NAT. PARK, LAKE ALMANOR
121°41.5W	44°35.6N	8/ 8/73	15°59'21	22-309	OREGON, CASCADE MTS., 3-SISTERS, MT. HOOD
121°23.0W	44°29.5N	8/ 8/73	15°59'25	83-292	OREGON, CASCADE MTS., 3-SISTERS, MT. JEFFERSON BEND
121°53.0W	46°08.4N	4/ 8/73	17°16'01	22-095	WASHINGTON, OREGON, MTS. HOOD, ADAMS, ST. HELENS, RAINIER, C-45
121°42.8W	46°08.1N	4/ 8/73	17°16'03	83-021	WASHINGTON, MT. ST. HELENS, MT. ADAMS, SPIRIT LAKE, C-20
121°03.2W	47°14.6N	5/ 8/73	16°32'32	22-213	WASHINGTON, COLUMBIA R., YAKIMA, RATTLE SNAKE HILLS, C-60
121°01.9W	47°15.0N	5/ 8/73	16°32'32	83-179	WASHINGTON, COLUMBIA R., WENATCHEE, CLE ELUM, C-60
120°54.7W	25°39.2N	6/ 9/73	21°21'56	34-238	PACIFIC OCEAN, C-95
120°15.4W	26°17.2N	6/ 9/73	21°22'10	34-239	PACIFIC OCEAN, C-98
120°59.6W	29°37.3N	10/ 9/73	20°05'04	85-372	CALIFORNIA, MEXICO, PACIFIC OCEAN, C-100
120°31.6W	36°51.7N	13/ 9/73	19°32'26	88-005	CALIFORNIA, SAN LUIS RES., FRESNO, SAN JOAQUIN VALLEY, MERCED
120°10.2W	37°04.7N	13/ 9/73	19°32'32	40-193	CALIFORNIA, SAN JOAQUIN VALLEY, FRESNO, MERCED
120°20.7W	39°49.2N	12/ 9/73	20°16'40	40-142	CALIFORNIA, NEVADA, RENO, PYRAMID LAKE, HONEY LAKE, SIERRA NEVADA
120°29.0W	39°53.8N	11/ 8/73	15°26'47	84-007	CALIF., FEATHER R., SIERRA NEVADA, PORTOLA
120°03.6W	39°40.0N	11/ 8/73	15°26'54	84-008	CALIF., NEVADA, LAKE TAHOE, RENO DONNER PASS
120°52.0W	39°32.7N	12/ 9/73	20°16'32	86-322	CALIFORNIA, SIERRA NEVADA, DONNER'S PASS, TRUCKEE R., SIERRAVILLE
120°26.0W	39°46.9N	12/ 9/73	20°16'39	86-323	CALIFORNIA, NEVADA, RENO, HONEY LAKE
120°52.4W	40°05.7N	11/ 8/73	15°26'41	28-054	CALIFORNIA, NEVADA, HONEY LAKE
120°54.7W	40°07.5N	11/ 8/73	15°26'41	84-006	CALIF., HONEY LAKE, LAKE ALMANOR, FEATHER R.
120°00.0W	40°01.1N	12/ 5/73	20°16'45	86-324	NEVADA, CALIFORNIA, PYRAMID LAKE, HONEY LAKE
120°42.5W	42°03.7N	11/ 9/73	21°00'39	34-340	CALIFORNIA-OREGON-NEVADA, GOOSE LAKE, LAVA BEDS, LAKEVIEW
120°55.6W	44°18.6N	8/ 8/73	15°59'31	22-310	OREGON, CASCADE MTS., 3-SISTERS, BEND, DESCHUTES R.
120°10.2W	44°01.2N	8/ 8/73	15°59'41	22-311	OREGON, BEND, CROOKED CREEK RES., DESCHUTES R.
120°08.5W	44°01.3N	8/ 8/73	15°59'41	83-293	OREGON, CROOKED RIVER RES., MAURY MTS., GLASS BUTTES
120°16.4W	45°38.4N	4/ 8/73	17°16'21	22-096	WASHINGTON, OREGON, COLUMBIA R., THE DALLES, YAKIMA
120°40.5W	45°48.8N	4/ 8/73	17°16'16	83-022	WASH., ORE., THE DALLES, COLUMBIA R.
120°34.9W	49°30.1N	20/ 9/73	20°56'40	46-246	BRITISH COLUMBIA, C-92
120°03.7W	50°10.1N	5/ 8/73	14°55'16	83-117	CANADA, BRITISH COLUMBIA, C-98
119°35.2W	10°09.2N	14/ 9/73	17°06'36	40-230	CLOUDS OVER PACIFIC, C-95
119°29.6W	27°00.8N	6/ 9/73	21°22'26	34-240	PACIFIC OCEAN, C-100
119°39.2W	37°25.0N	13/ 9/73	19°32'41	88-006	CALIFORNIA, SIERRA NEVADA MTS., YOSEMITE NAT. PARK, MAMMOTH
119°35.2W	39°23.5N	11/ 8/73	15°27'01	28-055	CALIFORNIA, NEVADA, PYRAMID LAKE, RENO, LAKE TAHOE
119°38.2W	39°26.0N	11/ 8/73	15°27'00	84-009	CALIF., NEVADA, LAKE TAHOE, RENO VIRGINIA CITY
119°13.1W	39°11.8N	11/ 8/73	15°27'07	84-010	CALIF., NEVADA, SAHANTAN RES., YERINGTON
119°40.8W	40°10.6N	12/ 9/73	20°16'50	40-143	NEVADA-CALIFORNIA, PYRAMID LAKE, BLACK ROCK DESERT
119°01.0W	40°31.4N	12/ 9/73	20°17'00	40-144	NEVADA, BLACK ROCK DESERT, HUMBOLDT PIV., TRINITY RANGE
119°33.6W	40°14.9N	12/ 9/73	20°16'52	86-325	NEVADA, PYRAMID LAKE, SMOKE CREEK DESERT
119°07.2W	40°28.8N	12/ 9/73	20°16'58	86-326	NEVADA, BLACK ROCK DESERT, SMOKE CREEK DESERT, HUMBOLDT R.
119°16.4W	42°42.4N	11/ 9/73	21°00'59	34-341	OREGON-NEVADA, MALHUR LAKE, HARNEY LAKE, ALVORD DESERT
119°25.3W	43°43.5N	8/ 8/73	15°59'51	22-312	OREGON, HARNEY LAKE, MALHUR LAKE, BURNS
119°34.9W	45°30.0N	4/ 8/73	17°16'29	83-023	WASH., ORE., COLUMBIA R., ARLINGTON
119°22.4W	46°48.3N	5/ 8/73	16°32'52	22-214	WASHINGTON, COLUMBIA R., SNAKE R., YAKIMA, PASCO, C-15
119°48.7W	46°55.5N	5/ 8/73	16°32'46	83-180	WASHINGTON, COLUMBIA R., MOSES LAKE, POTHOLE RES., C-15
118°21.4W	31°26.2N	15/ 9/73	18°04'25	40-329	CLOUDS OVERPACIFIC, C-100
118°04.0W	32°10.0N	10/ 9/73	20°06'02	40-042	CLOUDS, PACIFIC OCEAN OFF BAJA, CALIF. C-95
118°56.7W	37°50.5N	13/ 9/73	19°32'52	40-194	CALIFORNIA, NEVADA, SIERRA NEVADA, MONO LAKE, YOSEMITE PARK
118°45.8W	37°57.8N	13/ 9/73	19°32'55	88-007	CALIFORNIA, NEVADA, MONO LAKE, JUNE LAKE, MAMMOTH
118°18.4W	38°39.8N	11/ 8/73	15°27'21	28-056	NEVADA, CALIFORNIA, TRUCKEE RIV., WALKER LAKE
118°48.1W	38°57.6N	11/ 8/73	15°27'13	84-011	CALIF., NEVADA, WALKER LAKE, HAWTHORNE, SMITH VALLEY
118°23.4W	38°43.3N	11/ 8/73	15°27'20	84-012	NEVADA, WALKER LAKE, GABBS VALLEY, EXCELSIOR MTS.
118°20.4W	40°51.8N	12/ 9/73	20°17'10	40-145	NEVADA, HUMBOLDT RIV., WINNEMUCCA, BLACK ROCK DESERT
118°42.8W	40°41.4N	12/ 9/73	20°17'05	86-327	NEVADA, BLACK ROCK DESERT, HUMBOLDT R., RYE PATCH RES.
118°13.8W	40°55.9N	12/ 9/73	20°17'12	86-328	NEVADA, HUMBOLDT R., WINNEMUCCA, DESERT VALLEY
118°59.0W	41°33.4N	12/ 8/73	14°43'16	85-001	NEVADA, BLACK ROCK DESERT, 7-TROUGHS RANGE

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
118°40.9W	43°25.6N	8/ 8/73	16°00'01	22-313	OREGON, MALHIER R., DIAMOND CRATERS, ALVORD DESERT
118°55.7W	43°32.2N	8/ 8/73	15°59'57	83-294	OREGON, HARNEY LAKE, MALHIER LAKE, HARNEY BASIN
118°41.5W	45°07.9N	4/ 8/73	17°16'41	22-097	OREGON, COLUMBIA R., PENDLETON
118°37.6W	45°07.3N	4/ 8/73	17°16'42	83-024	ORE., PENDLETON, LA GRANDE, BUTTER CREEK
118°36.9W	46°37.2N	5/ 8/73	16°33'01	83-181	WASHINGTON, COLUMBIA R., SNAKE R., PASCO, OTHELL, C-15
118°43.5W	49°16.4N	20/ 9/73	20°57'00	46-247	BRITISH COLUMBIA, WASHINGTON, C-98
118°08.9W	49°12.3N	20/ 9/73	20°57'06	88-303	WASH., BRITISH COLUMBIA, C-100
118°50.6W	50°10.3N	5/ 8/73	14°55'28	83-118	CANADA, BRITISH COLUMBIA, C-98
117°06.0W	28°21.0N	16/ 9/73	17°20'20	46-052	PACIFIC OCEAN OFF MEXICO, C-100
117°18.1W	32°17.0N	15/ 9/73	18°04'45	40-330	CALIFORNIA, BAJA CALIFORNIA, SAN DIEGO, TIJUANA, C-40
117°05.3W	32°49.0N	10/ 5/73	20°06'19	85-373	CALIFORNIA, INTERSTATE 8 EAST OF SAN DIEGO, C-90
117°20.8W	32°14.0N	15/ 9/73	18°04'44	87-110	CALIF., BAJA CALIF., SAN DIEGO, TIJUANA, C-65
117°03.3W	37°55.2N	11/ 8/73	15°27'41	28-057	NEVADA, CALIFORNIA, TONOPAH, BOUNDARY PEAK
117°41.2W	38°35.4N	13/ 9/73	19°33'12	40-195	NEVADA, WALKER LAKE, SHOSHONE RANGE, TOiyABE RANGE
117°58.7W	38°28.9N	11/ 8/73	15°27'26	84-013	NEVADA, EXCELSIOR MTS., BIG SMOKE VALLEY, BASALT
117°51.4W	38°30.3N	13/ 5/73	19°33'10	88-008	NEVADA, COALDALE, BIG SMOKE VALLEY, CEDAR MTS.
117°17.1W	40°42.1N	12/ 8/73	14°43'40	28-186	NEVADA, HUMBOLDT RIVER, WINNEMUCCA
117°39.5W	41°12.3N	12/ 9/73	20°17'20	40-146	NEVADA, HUMBOLDT RIV., WINNEMUCCA, SANTA ROSE RANGE C-15
117°58.0W	41°03.7N	12/ 8/73	14°43'30	85-002	NEVADA, HUMBOLDT R., WINNEMUCCA, RYE PATCH RES., DESERT VALLEY
117°14.8W	41°24.9N	12/ 9/73	20°17'26	86-329	NEVADA, HUMBOLDT R., SANTA ROSA RANGE, OSGOOD MTS.
117°13.5W	42°48.7N	8/ 8/73	16°00'21	22-315	OREGON, NEVADA, BRUNEAU R., SNAKE R.
117°57.0W	43°07.3N	8/ 8/73	16°00'11	22-314	OREGON, OWYHEE LAKE, OWYHEE R., ALVORD DESERT
117°49.1W	43°19.6N	11/ 9/73	21°01'19	34-342	OREGON, MALHIER RIV., WARM SPRINGS RES.
117°43.5W	43°02.5N	8/ 8/73	16°00'13	83-295	OREGON, OWYHEE R., STEENS MTS.
117°07.9W	44°34.6N	4/ 8/73	17°17'01	22-098	OREGON, IDAHO, SNAKE R., HELL'S CANYON, WALLOWA MTS.
117°37.2W	44°46.0N	4/ 8/73	17°16'55	83-025	ORE., LA GRANDE, WALLOWA MTS., BAKER, SNAKE R.
117°25.7W	46°16.1N	5/ 8/73	16°33'15	83-182	WASHINGTON, OREGON, IDAHO, SNAKE R., LEWISTON, C-25
117°33.0W	49°07.2N	20/ 9/73	20°57'12	88-304	WASH., BRITISH COLUMBIA, C-100
117°35.4W	50°06.0N	5/ 8/73	14°55'41	83-119	BRITISH COLUMBIA, KOOTENAY R., C-93
116°05.0W	29°14.7N	16/ 9/73	17°20'40	46-053	MEXICO, BAJA CALIFORNIA, PUNTA BAJA C-75
116°58.0W	32°58.0N	10/ 5/73	20°06'22	40-043	CALIFORNIA-BAJA CALIF., COASTAL CLOUDS, TECATE DIVIDE C-60
116°34.3W	32°50.0N	15/ 9/73	18°04'58	87-111	CALIF., BAJA CALIF., SAN DIEGO, DECANSO, SANTA ROSA MTS.
116°12.9W	33°07.6N	15/ 9/73	18°05'05	40-331	CALIFORNIA, SALTON SEA, IMPERIAL VALLEY, EL CENTRO
116°44.2W	33°05.3N	10/ 9/73	20°06'25	85-374	CALIFORNIA, SANTA ROSA MTS., SAN JACINTO MTS., BORREGO VALLEY, C-55
116°22.8W	33°21.4N	10/ 9/73	20°06'32	85-375	CALIFORNIA, SALTON SEA, COACHELLA VALLEY, PALM SPRINGS, C-20
116°01.0W	33°37.6N	10/ 9/73	20°06'38	85-376	CALIFORNIA, SALTON SEA, COACHELLA VALLEY, CHOCOLATE MTS.
116°24.4W	39°19.4N	13/ 5/73	19°33'32	40-196	NEVADA, TOiyABE RANGE, TOiyUMA RANGE, MONITOR RANGE
116°56.4W	39°02.1N	13/ 9/73	19°33'24	88-009	NEVADA, SHOSHONE RANGE, TOiyABE RANGE, BIG SMOKE VALLEY, AUSTIN
116°39.2W	39°11.8N	13/ 9/73	19°33'28	88-010	NEVADA, EUREKA, DIAMOND MTS., DIAMOND VALLEY, RUBY RANGE
116°58.4W	40°33.0N	12/ 8/73	14°43'44	85-003	NEVADA, HUMBOLDT R., BATTLE MT., SHOSHONE RANGE
116°58.4W	41°32.2N	12/ 9/73	20°17'30	40-147	NEVADA, IDAHO, HUMBOLDT RIV., JUNIPER BASIN, OWYHEE CREEK C-20
116°16.2W	41°52.1N	12/ 5/73	20°17'40	40-148	IDAHO-NEVADA, JUNIPER BASIN, BRUNEAU RIV. C-25
116°14.8W	41°53.5N	12/ 9/73	20°17'40	86-330	NEVADA, IDAHO, OWYHEE R., INDEPENDENCE MTS.
116°31.0W	42°30.0N	8/ 8/73	16°00'31	22-316	IDAHO, NEVADA, BRUNEAU R., SNAKE R.
116°33.3W	42°31.7N	8/ 8/73	16°00'30	83-296	OREGON, IDAHO, OWYHEE R., SOUTH MT., BIG GRASSY MT.
116°37.6W	44°25.2N	4/ 8/73	17°17'07	83-026	ORE., IDAHO, SNAKE R., CASCADE RES., WEISER, PAYETTE
116°15.8W	45°54.7N	5/ 8/73	16°33'29	83-183	IDAHO, WASH., ORE., SNAKE R., SALMON R., C-70
116°52.4W	49°00.4N	20/ 9/73	20°57'20	46-248	BRITISH COLUMBIA, IDAHO, C-96
116°21.4W	50°02.3N	5/ 8/73	14°55'54	83-120	BRITISH COLUMBIA, KOOTENAY R., KIMBERLEY, C-90
115°38.0W	15°40.0N	9/ 9/73	19°09'48	85-249	PACIFIC OCEAN, C-40
115°23.1W	15°57.8N	9/ 9/73	19°09'54	85-250	PACIFIC OCEAN OFF MEXICO, C-55
115°08.3W	16°15.4N	5/ 9/73	19°10'00	85-251	PACIFIC OCEAN OFF MEXICO, C-45
115°50.1W	25°54.0N	7/ 9/73	20°39'10	34-270	PACIFIC OCEAN C-100
115°56.4W	29°23.1N	16/ 9/73	17°20'43	88-093	MEXICO, BAJA CALIFORNIA, PUNTA BAJA
115°04.3W	30°07.1N	16/ 5/73	17°21'00	46-054	MEXICO, BAJA CALIFORNIA, SIERRA SAN PEDRO MATIR C-10
115°24.8W	30°38.8N	6/ 9/73	21°23'48	86-001	MEXICO, BAJA CALIFORNIA
115°04.3W	30°55.8N	6/ 9/73	21°23'55	86-002	MEXICO, BAJA CALIFORNIA, SAN FELIPE, SEA OF CORTEZ
115°12.9W	30°00.5N	16/ 9/73	17°20'57	88-094	MEXICO, BAJA CALIFORNIA, SIERRA SANTA ISABEL
115°50.0W	33°50.0N	10/ 9/73	20°06'42	40-044	CALIFORNIA, SALTON SEA, IMPERIAL VALLEY, COACHELLA VALLEY
115°06.3W	33°57.2N	15/ 9/73	18°05'25	40-332	CALIFORNIA, ARIZONA, COLORADO RIV., BLYTHE, MOJAVE DESERT

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LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
115°39.6W 115°47.5W	33°53.7N 33°25.7N	10/ 9/73 15/ 9/73	20°06'45 18°05'13	85-377 87-112	CALIFORNIA, CHOCOLATE MTS., JOSHUA TREE NAT. MONUMENT CALIF., SALTON SEA, COACHELLA VALLEY, CHOCOLATE MTS.
115°17.5W	34°09.7N	10/ 9/73	20°06'51	85-378	CALIFORNIA, JOSHUA TREE NAT. MON., COLORADO AQUEDUCT, TURTLE MTS.
115°49.5W	37°09.2N	11/ 8/73	15°28'01	28-058	NEVADA, CALIFORNIA, SPRING MTS., GOLDFIELD, AMARGOSA RIV.
115°55.1W 115°03.3W	39°59.1N 39°31.7N	12/ 8/73 12/ 8/73	14°44'00 14°44'13	28-187 85-005	NEVADA, DIAMOND MTS., DIAMOND VALLEY, RUDY RANGE NEVADA, ELY, LIBERTY PIT, MCGILL, EAGAN RANGE, DIAMOND PEAK
115°05.6W 115°59.7W 115°03.7W	40°02.4N 40°02.2N 40°04.2N	13/ 9/73 12/ 8/73 13/ 5/73	19°33'52 14°43'59 19°33'53	40-197 85-004 88-011	NEVADA, DIAMOND MTS., EGAN RANGE, RUBY RANGE, RUBY LAKE NEVADA, DIAMOND VALLEY, DIAMOND MT., RUBY RANGE NEVADA, EAGAN RANGE, CHERRY CREEK RANGE, GOSHUTE LAKE
115°07.0W	41°51.5N	8/ 8/73	16°00'50	22-318	NEVADA, UTAH, BONNEVILLE SALT FLATS, WELLS, WENDOVER
115°49.1W 115°34.0W 115°24.1W 115°13.9W	42°10.9N 42°11.9N 42°00.0N 42°21.6N	8/ 8/73 12/ 9/73 8/ 8/73 12/ 9/73	16°00'40 20°17'50 16°00'46 20°17'55	22-317 40-149 83-297 86-331	IDAHO, NEVADA, WELLS, HUMBOLDT R., COPPER MT. IDAHO, SNAKE RIV., BRUNEAU RIV., GLENN'S FERRY C-25 IDAHO, NEVADA, COPPER MTS., MATTERHORN, OHYHEE R. IDAHO, SNAKE R., SALMON FALLS CREEK, BRUNEAU R.
115°36.9W 115°39.3W 115°51.8W	44°00.3N 44°02.0N 44°07.1N	4/ 8/73 4/ 8/73 11/ 9/73	17°17'21 17°17'20 21°01'45	22-099 83-027 86-223	IDAHO, BCISE, SNAKE R., SALMON RIVER MTS., C-15 IDAHO, SALMON RIVER MTS., PAYETTE R., HORSE SHOE BEND IDAHO, SALMON RIVER MTS., CASCADE RES., PAYETTE R.
115°06.3W	45°32.8N	5/ 8/73	16°33'44	83-184	IDAHO, C-90
115°02.7W 115°15.9W	48°42.6N 48°45.6N	20/ 9/73 20/ 9/73	20°57'40 20°57'37	46-249 88-305	BRITISH COLUMBIA, ALBERTA, MONTANA, C-95 MONTANA, BRITISH COLUMBIA, KOOTENAY R., C-85
115°08.7W	49°59.8N	5/ 8/73	14°56'07	83-121	ALBERTA, BRITISH COLUMBIA, ROCKY MTS., LIVINGSTONE RANGE, C-90
114°55.1W	9°56.7N	15/ 9/73	16°23'38	40-280	PACIFIC OCEAN, C-50
114°54.1W 114°39.3W	16°31.6N 16°49.0N	9/ 9/73 9/ 5/73	19°10'06 19°10'12	85-252 85-253	PACIFIC OCEAN OFF MEXICO, C-20 PACIFIC OCEAN OFF MEXICO, C-12
114°24.4W 114°09.6W	17°06.3N 17°23.6N	9/ 9/73 9/ 9/73	19°10'18 19°10'24	85-254 85-255	PACIFIC OCEAN OFF MEXICO, C-12 PACIFIC OCEAN OFF MEXICO, C-13
114°53.4W	26°48.2N	7/ 9/73	20°39'30	34-271	MEXICO, BAJA CALIFORNIA, SIERRA VIZCAINO C-80
114°02.4W 114°29.1W	30°59.1N 30°37.0N	16/ 9/73 16/ 5/73	17°21'20 17°21'12	46-055 88-095	MEXICO, SEA OF CORTEZ, BAJA CALIFORNIA, SONORA, PUERTO PENASCO MEXICO, BAJA CALIFORNIA, SEA OF CORTEZ, PUNTA ESTRELLA
114°43.6W 114°22.8W 114°02.0W	31°12.7N 31°29.7N 31°46.7N	6/ 9/73 6/ 9/73 6/ 9/73	21°24'01 21°24'08 21°24'14	86-003 86-004 86-005	MEXICO, BAJA CALIFORNIA, SAN FELIPE, SEA OF CORTEZ MEXICO, BAJA CALIFORNIA, SONORA, MOUTH OF COLORADO, SEA OF CORTEZ MEXICO, SONORA, CERRO PINCATE, GRAND SONORAN DESERT
114°40.0W 114°55.7W	34°36.0N 34°25.7N	10/ 5/73 10/ 9/73	20°07'02 20°06'58	40-045 85-379	CALIFORNIA, ARIZONA, COLORADO RIV., MOJAVE DESERT, NEEDLES CALIFORNIA, ARIZONA, COLORADO R., LAKE HAVASU, TURTLE MTS.
114°33.3W 114°11.3W 114°59.7W 114°11.3W	34°41.5N 34°57.3N 34°01.1N 34°36.3N	10/ 9/73 10/ 9/73 15/ 9/73 15/ 9/73	20°07'04 20°07'11 18°05'27 18°05'41	85-380 85-381 87-113 87-114	CALIFORNIA, ARIZONA, COLORADO R., NEEDLES, DAVIS DAM, C-10 CALIFORNIA, ARIZONA, COLORADO R., BLACK MTS., HUALPAI MTS., C-20 CALIF., ARIZONA, COLORADO R., COLORADO AQUEDUCT, TURTLE MTS. CALIF., ARIZONA, COLORADO R., HAVASU LAKE, PARKER DAM, NEEDLES
114°38.0W	36°23.2N	11/ 8/73	15°28'21	28-059	NEVADA, LAS VEGAS, LAKE MEAD, COLORADO RIV.
114°36.6W 114°08.0W	39°16.2N 39°00.7N	12/ 8/73 12/ 8/73	14°44'20 14°44'27	28-188 85-006	NEVADA, ELY, LIBERTY PIT, EGAN RANGE, SCHELL CREEK RANGE NEVADA, UTAH, SCHELL CREEK RANGE, WHEELER PEAK, BAKER
114°25.8W 114°05.7W	40°23.5N 40°34.5N	13/ 9/73 13/ 9/73	19°34'02 19°34'07	40-198 88-012	NEVADA, UTAH, BONNEVILLE SALT FLATS, RUBY RANGE NEVADA, UTAH, BONNEVILLE SALT FLATS, WENDOVER DESERT RANGE
114°24.4W 114°16.2W	41°31.4N 41°27.7N	6/ 8/73 8/ 8/73	16°01'01 16°01'02	22-319 83-298	UTAH, NEVADA, GREAT SALT LAKE DESERT, PILOT PEAK NEVADA, UTAH, WELLS, PEQUOP MTS., TOANO RANGE
114°07.0W 114°11.9W	42°50.8N 42°49.3N	12/ 9/73 12/ 9/73	20°18'10 20°18'09	40-150 86-332	IDAHO, SNAKE RIV., TWIN FALLS, LAVA FLOWS IDAHO, SNAKE R., PLAIN, LAVA FLOWS, TWIN FALLS, BURLEY
114°06.3W 114°41.2W	43°25.6N 43°39.1N	4/ 8/73 4/ 8/73	17°17'41 17°17'33	22-100 83-028	IDAHO, SALMON RIVER MTS., MAGIC RES., C-60 IDAHO, SALMON RIVER MTS., ANDERSON RANCH RES., SUN VALLEY, C-40
114°45.9W	44°32.3N	11/ 9/73	21°02'00	86-224	IDAHO, SALMON RIVER MTS., CHALLIS SALMON R., C-12
114°40.6W 114°06.0W	48°39.3N 48°33.4N	20/ 9/73 20/ 9/73	20°57'44 20°57'50	88-306 88-307	MONTANA, BRITISH COLUMBIA, FLATHEAD R., C-88 MONTANA, BRITISH COLUMBIA, FLATHEAD R., C-90
113°54.8W 113°39.6W	17°40.9N 17°58.2N	9/ 9/73 9/ 9/73	19°10'30 19°10'36	85-256 85-257	PACIFIC OCEAN OFF MEXICO, C-17 PACIFIC OCEAN OFF MEXICO, C-19
113°24.8W 113°09.6W	18°15.6N 18°32.7N	9/ 9/73 9/ 9/73	19°10'42 19°10'48	85-258 85-259	PACIFIC OCEAN OFF MEXICO, C-30 PACIFIC OCEAN OFF MEXICO, C-35
113°17.2W	23°08.4N	13/ 9/73	17°54'00	40-157	PACIFIC OCEAN OFF BAJA CALIFORNIA C-80
113°55.8W	27°42.0N	7/ 9/73	20°35'50	34-272	MEXICO, BAJA CALIFORNIA, SIERRA VIZCAINO, LAGUNA OJO LIEBRE
113°44.2W	31°14.7N	16/ 5/73	17°21'26	88-096	MEXICO, SONORA, CERRO PINCATE, BAHIA DE SAN JORGE
113°11.9W 113°40.9W 113°19.5W	32°25.6N 32°03.5N 32°20.3N	6/ 9/73 6/ 9/73 6/ 9/73	21°24'30 21°24'21 21°24'28	34-241 86-006 86-007	MEXICO (SONORA), ARIZONA, CERRO PINCATE, GILA RIV. MEXICO, (SONORA), USA (ARIZONA), CERRO PINCATE MEXICO, (SONORA), USA (ARIZONA), CERRO PINCATE AJO

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
113°58.7W	34°46.1N	15/ 9/73	18°05'45	40-333	CALIFORNIA, ARIZONA, COLORADO RIV., LAKE HAVASU, KINGMAN
113°27.7W	35°36.1N	11/ 8/73	15°28'41	28-060	ARIZONA, NEVADA, KINGMAN, GRAND CANYON
113°30.0W	35°24.0N	10/ 9/73	20°07'22	40-046	ARIZONA, COLORADO RIV., GRAND CANYON, KINGMAN C-25
113°26.1W	35°35.7N	11/ 8/73	15°28'41	84-014	ARIZONA, COLORADO R., GRAND CANYON
113°48.8W	35°13.0N	10/ 9/73	20°07'17	85-382	ARIZONA, KINGMAN, GOLDROAD-GATHAN, HUALPAI MTS., MUSIC MT., C-25
113°26.1W	35°28.7N	10/ 9/73	20°07'24	85-383	ARIZONA, KINGMAN, COLORADO R., GRAND CANYON, AUBREY CLIFFS, C-30
113°03.4W	35°44.1N	10/ 9/73	20°07'30	85-384	ARIZONA, GRAND CANYON, COLORADO R., AUBREY CLIFFS, C-50
113°22.1W	35°10.9N	15/ 9/73	18°05'55	87-115	ARIZONA, KINGMAN, AQUARIUS CLIFFS, RUPEO CREEK
113°20.2W	38°32.4N	12/ 8/73	14°44'40	28-189	NEVADA, UTAH, ESCALANTE DESERT, WAH WAH MTS., SEVIER DRY LAKE
113°13.6W	38°29.3N	12/ 8/73	14°44'42	85-007	UTAH, SEVIER DRY LAKE, WAH WAH MTS., MILFORD
113°02.7W	40°50.8N	8/ 8/73	16°01'21	22-321	UTAH, GREAT SALT LAKE, LAKE UTAH, SALT LAKE CITY
113°45.2W	40°44.4N	13/ 9/73	19°34'12	40-199	UTAH, NEVADA, BONNEVILLE SALT FLATS, GREAT SALT DESEPT
113°43.2W	41°11.3N	8/ 8/73	16°01'11	22-320	UTAH, NEVADA, BONNEVILLE SALT FLATS, GREAT SALT LAKE
113°04.7W	41°04.8N	13/ 9/73	19°34'22	40-200	UTAH, GREAT SALT LAKE, PROMONTORY POINT
113°07.0W	41°04.3N	13/ 9/73	19°34'22	88-013	UTAH, GREAT SALT LAKE, GREAT SALT LAKE DESERT, DESERT PEAK
113°43.9W	43°15.5N	4/ 8/73	17°17'46	83-029	IDAHO, MAGIC RES., BIG WOOD R., C-80
113°09.0W	43°16.0N	12/ 9/73	20°18'23	86-333	IDAHO, SNAKE R., PLAIN, LAVA FLOW, BLACKFOOT
113°38.6W	44°56.2N	11/ 9/73	21°02'14	86-225	IDAHO, MONTANA, SALMON, BEAVERHEAD RANGE, LEMHI RANGE, C-12
113°14.9W	48°23.0N	20/ 9/73	20°58'00	46-250	MONTANA, C-92
113°30.4W	48°26.7N	20/ 9/73	20°57'57	88-308	MONTANA, HUNGRY HORSE RES., C-50
113°54.5W	49°53.3N	5/ 8/73	14°56'20	83-122	ALBERTA, OLD MAN R., BELLY R., CLARESHOLM, C-30
112°49.5W	6°22.6N	16/ 9/73	15°39'30	46-001	PACIFIC OCEAN, C-95
112°54.5W	18°49.8N	9/ 9/73	19°10'54	85-260	PACIFIC OCEAN OFF MEXICO, C-40
112°39.3W	19°07.0N	9/ 9/73	19°11'00	85-261	PACIFIC OCEAN OFF MEXICO, C-65
112°24.1W	19°24.1N	9/ 9/73	19°11'06	85-262	PACIFIC OCEAN OFF MEXICO, C-70
112°09.0W	19°41.2N	9/ 9/73	19°11'12	85-263	PACIFIC OCEAN OFF MEXICO, C-55
112°23.2W	24°03.9N	13/ 9/73	17°54'20	40-158	MEXICO, BAJA CALIFORNIA, CABO SAN LAZARO, BAHIA MAGDALENA C-30
112°56.1W	28°36.0N	7/ 9/73	20°40'10	34-273	MEXICO, BAJA CALIFORNIA, ANGEL DE LA GUARDIA I., TIBURON I.
112°59.4W	31°50.3N	16/ 9/73	17°21'40	46-056	MEXICO, (SONORA), ARIZONA, AJO, CERRO PINACATE
112°59.1W	31°51.3N	16/ 9/73	17°21'40	88-097	MEXICO, (SONORA), ARIZONA, CERRO PINACATE, AJO
112°39.6W	32°50.6N	6/ 9/73	21°24'40	34-242	ARIZONA, GILA RIV., PHOENIX, AJO, CASA GRANDE, GILA BEND
112°58.1W	32°36.9N	6/ 9/73	21°24'34	86-008	ARIZONA, AJO, GILA BEND, GILA R.
112°36.7W	32°53.6N	6/ 9/73	21°24'41	86-009	ARIZONA, GILA R., GILA BEND, BUCKEYF
112°13.3W	32°27.7N	16/ 9/73	17°21'55	88-098	ARIZONA, SANTA ROSA VALLEY, SAUCEDA MTS.
112°06.7W	33°15.7N	6/ 9/73	21°24'50	34-243	ARIZONA, PHOENIX, GILA RIV., SUN CITY, TEMPE
112°15.2W	33°10.1N	6/ 9/73	21°24'47	86-010	ARIZONA, GILA R., PHOENIX, TEMPE, MESA
112°18.9W	34°48.3N	11/ 8/73	15°29'01	28-061	ARIZONA, PRESCOTT, FLAGSTAFF, BAGDAD, VERDE RIV.
112°49.5W	35°34.3N	15/ 9/73	18°06'05	40-334	ARIZONA, GRAND CANYON OF THE COLORADO, COCONINO PLATEAU
112°36.7W	35°01.5N	11/ 8/73	15°28'56	84-015	ARIZONA, PRESCOTT, VERDE R., BIG CHINO WASH
112°40.6W	35°59.6N	10/ 9/73	20°07'37	85-385	ARIZONA, COLORADO R., GRAND CANYON, COCONINO PLATEAU, C-75
112°32.4W	35°45.1N	15/ 9/73	18°06'10	87-116	ARIZONA, COLORADO R., GRAND CANYON OF THE COLORADO, COCONINO PLATEAU
112°22.8W	36°10.7N	10/ 9/73	20°07'42	40-047	ARIZONA, COLORADO RIV., SAN FRANCISCO PEAKS, LITTLE COLORADO P. C-70
112°17.5W	36°15.0N	10/ 9/73	20°07'43	85-386	ARIZONA, C-90
112°05.4W	37°47.4N	12/ 8/73	14°45'00	28-190	UTAH, CECAP CITY, BRYCE CANYON NAT. PARK, SEVIER RIV.
112°19.9W	37°57.3N	12/ 8/73	14°44'56	85-008	UTAH, BEAVER, PANGUITCH, BRYCE CANYON NAT. PARK
112°21.2W	40°30.4N	8/ 8/73	16°01'31	22-322	UTAH, SALT LAKE CITY, PROVO, WASATCH MTS.
112°35.0W	40°38.0N	8/ 8/73	16°01'27	83-299	UTAH, SALT LAKE CITY, GREAT SALT LAKE, BINGHAM MINE
112°08.7W	40°24.0N	8/ 8/73	16°01'34	83-300	UTAH, SALT LAKE CITY, GREAT SALT LAKE, LAKE UTAH, PREVO, JORDAN R.
112°23.2W	41°25.3N	13/ 9/73	19°34'32	40-201	UTAH, GREAT SALT LAKE, OGDEN, LOGAN
112°07.3W	41°33.5N	13/ 9/73	19°34'36	88-014	UTAH, GREAT SALT LAKE, OGDEN, LOGAN, BRIGHAM CITY
112°39.0W	42°47.2N	4/ 8/73	17°18'01	22-101	IDAHO, SNAKE RIVER PLAINS, AMERICAN FALLS, LAVA BEDS, C-75
112°47.5W	42°51.6N	4/ 8/73	17°17'59	83-030	IDAHO, POCAATELLO, SNAKE R., C-80
112°39.0W	43°27.9N	12/ 9/73	20°18'30	40-151	IDAHO, POCAATELLO, CRATERS OF THE MOON, AMERICAN FALLS, LAVA FLOWS
112°00.7W	44°27.2N	5/ 8/73	16°34'24	22-215	IDAHO, MONTANA, LAVA FLOWS, MUD LAKE, C-30
112°50.5W	44°46.7N	5/ 8/73	16°34'13	83-185	MONTANA, IDAHO, BEAVERHEAD R., DILLON, C-10
112°30.7W	45°19.6N	11/ 9/73	21°02'29	86-226	MONTANA, IDAHO, DILLON, BEAVERHEAD R., PIONEER MTS., C-13
112°55.8W	48°19.9N	20/ 9/73	20°58'03	88-309	MONTANA, VALIEP, C-90
112°41.9W	49°48.7N	5/ 8/73	14°56'33	83-123	ALBERTA, LETHBRIDGE, OLD MAN R., TABER, C-40
111°53.5W	19°58.4N	9/ 9/73	19°11'18	85-264	PACIFIC OCEAN OFF MEXICO, C-65
111°38.0W	20°15.4N	9/ 9/73	19°11'24	85-265	PACIFIC OCEAN OFF MEXICO, C-70
111°22.5W	20°32.5N	9/ 9/73	19°11'30	85-266	PACIFIC OCEAN OFF MEXICO, C-50
111°07.0W	20°49.5N	9/ 9/73	19°11'36	85-267	PACIFIC OCEAN OFF MEXICO, C-50
111°28.1W	24°59.3N	13/ 9/73	17°54'40	40-159	MEXICO, BAJA CALIFORNIA, LLANO MAGDALENA, SIERRA GIGANTA

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
111°56.1W	29°29.1N	7/ 5/73	20°40'30	34-274	MEXICO, SONORA, KINO, TIBURON I.
111°54.8W	32°41.1N	16/ 9/73	17°22'00	46-057	ARIZONA, PHOENIX, TEMPE, MESA, CASA GRANDE, SALT RIV.
111°11.3W	33°59.3N	11/ 8/73	15°29'21	28-062	ARIZONA, SCOTTSDALE, T. ROOSEVELT RES., GILA RIV., MCGOLLON RIM
111°31.4W	33°42.2N	6/ 9/73	21°25'01	34-244	ARIZONA, PHOENIX, GILA RIV., T. ROOSEVELT RES., SUPERSTITION MTS.
111°53.5W	33°26.5N	6/ 9/73	21°24'54	86-011	ARIZONA, PHOENIX, SUN CITY, MESA, GILA R.
111°31.4W	33°42.9N	6/ 9/73	21°25'01	86-012	ARIZONA, GILA R., SUPERSTITION MTS., T. ROOSEVELT LAKE, C-15
111°09.3W	33°59.2N	6/ 9/73	21°25'07	86-013	ARIZONA, VERDE R., GILA R., PAYSON, T. ROOSEVELT LAKE
111°26.5W	33°03.6N	16/ 9/73	17°22'09	88-099	ARIZONA, TEMPE, CASA GRANDE, SUPERSTITION MTS.
111°00.1W	34°05.1N	6/ 9/73	21°25'10	34-245	ARIZONA, GILA RIV., T. ROOSEVELT RES., MCGOLLON RIM C-30
111°47.9W	34°26.9N	11/ 8/73	15°29'10	84-016	ARIZONA, VERDE R., PINE, MCGOLLON RIM
111°11.0W	36°57.5N	10/ 5/73	20°08'02	40-048	ARIZONA, UTAH, LAKE POWELL, COLORADO RIV. NAVAJO MT. C-65
111°39.0W	36°21.7N	15/ 9/73	18°06'25	40-335	ARIZONA, UTAH, LAKE POWELL, GRAND CANYON, BLACK MESA
111°03.1W	36°45.3N	15/ 9/73	18°06'35	40-336	ARIZONA, UTAH, LAKE POWELL, NAVAJO MT., BLACK MESA
111°54.1W	36°30.3N	10/ 9/73	20°07'50	85-387	ARIZONA, UTAH, C-95
111°41.6W	36°19.1N	15/ 9/73	18°06'24	87-117	ARIZONA, COLORADO R., PAINTED DESERT, LITTLE COLORADO R., PAGE
111°27.1W	37°24.8N	12/ 8/73	14°45'10	85-009	UTAH, ARIZONA, LAKE POWELL, COLORADO R., ESCALANTE R.
111°03.4W	39°48.2N	8/ 8/73	16°01'50	22-324	UTAH, UTAH MTS., DUCHESNE R., PRICE
111°15.6W	39°55.8N	8/ 8/73	16°01'47	83-302	UTAH, WASATCH MTS., STRAWBERRY RES., CASTLE GATE
111°42.9W	40°09.3N	8/ 8/73	16°01'40	22-323	UTAH, WASATCH MTS., UTAH MTS., STRAWBERRY RES.
111°42.9W	40°09.8N	8/ 8/73	16°01'40	83-301	UTAH, UTAH LAKE, PROVO, WASATCH MTS., SPANISH FORK
111°41.6W	41°45.2N	13/ 5/73	19°34'42	40-202	UTAH, IDAHO, WYOMING, BEAR LAKE, WASATCH RANGE
111°13.3W	42°08.5N	4/ 8/73	17°18'21	22-102	IDAHO, SODA SPRINGS, BLACKFOOT RES., C-80
111°51.8W	42°27.1N	4/ 8/73	17°18'12	83-031	IDAHO, BLACKFOOT RIVER RES., SODA SPRINGS, C-80
111°07.0W	42°02.0N	13/ 9/73	19°34'50	88-015	UTAH, WYOMING, IDAHO, BEAR LAKE BEAR R., WASATCH MTS.
111°09.0W	44°03.8N	12/ 9/73	20°18'50	40-152	IDAHO, WYOMING, SNAKE RIV., LAVA FLOWS, ISLAND PARK LAKE C-15
111°46.6W	44°21.9N	5/ 8/73	16°34'27	83-186	MONTANA, IDAHO, LIMA RES., HENRY'S FORK, REXBURG, C-60
111°20.5W	44°00.0N	12/ 9/73	20°18'48	86-334	IDAHO, WYOMING, JACKSON LAKE, GRAND TETON NAT. PARK, SNAKE P.
111°49.2W	45°42.8N	11/ 9/73	21°02'37	34-343	MONTANA, MUSSELSHELL RIV., YELLOWSTONE RIV., LIVINGSTON C-30
111°21.8W	45°42.2N	11/ 9/73	21°02'43	86-227	MONTANA, ENNIS LAKE, MADISON RANGE, TIBACCO ROOT MTS., BOZEMAN, C-25
111°29.3W	49°42.3N	5/ 8/73	14°56'46	83-124	ALBERTA, TABER, OLD MAN R., CROW, INDIAN LAKE, C-15
110°28.1W	9°26.7N	16/ 9/73	15°40'33	46-002	PACIFIC OCEAN, 9N-110W, C-50
110°51.5W	21°06.4N	9/ 9/73	19°11'42	85-268	PACIFIC OCEAN OFF MEXICO, C-70
110°36.0W	21°23.4N	5/ 9/73	19°11'48	85-269	PACIFIC OCEAN OFF MEXICO, C-80
110°20.2W	21°40.4N	9/ 9/73	19°11'54	85-270	PACIFIC OCEAN OFF MEXICO, C-90
110°04.4W	21°57.2N	5/ 9/73	19°12'00	85-271	PACIFIC OCEAN OFF MEXICO, C-99
110°32.4W	25°53.8N	13/ 9/73	17°55'00	40-160	MEXICO, BAJA CALIFORNIA, ISLA CARMAN, ISLA SAN JOSE C-15
110°55.0W	30°22.0N	7/ 9/73	20°40'50	34-275	MEXICO, SONORA, RIO MAGDALENA, CANANEA C-12
110°05.1W	33°09.9N	11/ 8/73	15°29'41	28-063	ARIZONA, SAN CARLOS LAKE, GLOBE, GILA RIV., MONTECI
110°49.2W	33°31.2N	16/ 9/73	17°22'20	46-058	ARIZONA, T. ROOSEVELT RES., SAN CARLOS RES., GILA RIV., GLOBE
110°59.8W	33°51.9N	11/ 8/73	15°29'24	84-017	ARIZONA, LAKE T. ROOSEVELT, GILA R., PAYSON, GLOBE
110°12.6W	33°16.5N	11/ 8/73	15°29'38	84-018	ARIZONA, SAN CARLOS RES., GILA R., GILA MTS.
110°39.3W	33°39.2N	16/ 9/73	17°22'23	88-100	ARIZONA, T. ROOSEVELT LAKE, GLOBE, MIAMI, SAN CARLOS LAKE
110°26.5W	34°29.7N	6/ 9/73	21°25'20	34-246	ARIZONA, MCGOLLON RIM, LITTLE COLORADO RIV. C-60
110°47.2W	34°15.3N	6/ 9/73	21°25'14	86-014	ARIZONA, MCGOLLON R., C-30
110°24.8W	34°31.5N	6/ 9/73	21°25'22	86-015	ARIZONA, LITTLE COLORADO R., C-65
110°02.1W	34°47.6N	6/ 9/73	21°25'27	86-016	ARIZONA, LITTLE COLORADO R., PUERTO R., C-70
110°35.4W	36°51.9N	12/ 8/73	14°45'24	85-010	UTAH, ARIZONA, LAKE POWELL, NAVAJO MT., MONUMENT VALLEY, C-10
110°50.2W	36°52.5N	15/ 9/73	13°06'38	87-118	ARIZONA, UTAH, LAKE POWELL, PAGE, NAVAJO MT., SAN JUAN R., MONU. VALLEY
110°51.9W	37°01.8N	12/ 8/73	14°45'20	28-191	UTAH, ARIZONA, LAKE POWELL, COLORADO RIV., MONUMENT VALLEY
110°26.5W	37°08.5N	15/ 9/73	18°06'45	40-337	ARIZONA, UTAH, LAKE POWELL, MONUMENT VALLEY, GOOSENECKS OF SAN JUAN
110°23.8W	39°27.1N	8/ 8/73	16°02'00	22-325	UTAH, SAN RAFAEL SWELL, GREEN P.
110°48.9W	39°41.5N	8/ 8/73	16°01'54	83-303	UTAH, WASATCH MTS., PRICE, PRICE R., INDIAN HEAD
110°22.5W	39°27.1N	8/ 8/73	16°02'00	83-304	UTAH, SAN RAFAEL SWELL, PRICE, GREEN R., DESOLATION CANYON
110°03.1W	41°36.5N	4/ 8/73	17°18'38	83-033	UTAH, COLORADO, BLACK'S FORK, C-93
110°58.8W	42°05.0N	13/ 5/73	19°34'52	40-203	UTAH, IDAHO, WYOMING, BEAR LAKE, GREEN RIV., OREGON TRAIL
110°16.6W	42°24.3N	13/ 9/73	19°35'02	40-204	WYOMING, GREEN RIV., FONTENELLE RES., PINEDALE
110°56.8W	42°03.7N	4/ 8/73	17°18'25	83-032	IDAHO, WYOMING, C-97
110°05.4W	42°30.0N	13/ 9/73	19°35'05	88-016	WYOMING, GREEN R., FREMONT LAKE, WYOMING RANGE, PINEDALE
110°30.1W	43°53.1N	5/ 8/73	16°34'44	22-216	IDAHO, WYOMING, C-80
110°39.7W	43°56.9N	5/ 8/73	16°34'41	83-187	IDAHO, WYOMING, GRAND TETON MTS., JACKSON LAKE, YELLOWSTONE PARK, C-80
110°15.9W	44°24.6N	12/ 9/73	20°15'02	86-335	WYOMING, YELLOWSTONE NAT. PARK, YELLOWSTONE LAKE, YELLOWSTONE R., C-20
110°12.6W	46°03.3N	11/ 9/73	21°02'57	34-344	MONTANA, BOZEMAN, ENNIS LAKE, MADISON RIV., GALLATIN RIV. C-30
110°11.6W	46°04.1N	11/ 9/73	21°02'57	86-228	MONTANA, CRAZY MTS., MUSSELSHELL R., YELLOWSTONE R., C-15
110°16.0W	49°33.0N	5/ 8/73	14°56'59	83-125	ALBERTA, SASKATCHEWAN, MILK R., PAKOWIT LAKE, C-35
109°55.5W	12°53.0N	15/ 9/73	16°24'38	40-281	PACIFIC OCEAN, C-20

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DDD°MM.N	LATITUDE DD°MM.N	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
109°46.3W	16°17.6N	15/ 9/73	16°25'48	40-282	PACIFIC OCEAN, C-40
109°48.6W	22°14.0N	9/ 9/73	19°12'06	85-272	PACIFIC OCEAN OFF MEXICO, C-98
109°32.8W	22°30.8N	9/ 9/73	19°12'12	85-273	PACIFIC OCEAN OFF MEXICO, C-95
109°16.6W	22°47.8N	9/ 9/73	19°12'18	85-274	PACIFIC OCEAN OFF MEXICO, C-80
109°00.5W	23°04.4N	9/ 9/73	19°12'24	85-275	MEXICO, BAJA CALIFORNIA, SAN JOSE DEL CABO, C-60
109°35.4W	26°48.4N	13/ 9/73	17°55'20	40-161	MEXICO, SONORA-SINALOA, CIUDAD OBREGON, NAVOJOA C-35
109°54.0W	31°15.0N	7/ 9/73	20°41'10	34-276	MEXICO, SONORA, ARIZONA, DOUGLAS, AGUA PRIETA, WILLCOX DRY LAKE C-20
109°38.4W	31°25.6N	7/ 9/73	20°41'15	86-052	ARIZONA, SONORA, DOUGLAS, BISBEE
109°17.3W	31°42.7N	7/ 9/73	20°41'21	86-053	ARIZONA, NEW MEXICO, MEXICO (SONORA), DOUGLAS, AGUA PRIETA
109°00.1W	32°19.8N	11/ 8/73	15°30'01	28-064	ARIZONA, NEW MEXICO, WILLCOX PLAYS, LORDSBURG, CHIRICAHUA MTS.
109°24.5W	32°39.6N	11/ 8/73	15°25'53	84-019	ARIZONA, MORENCI, THACHER, SAFFORD, GILA MTS.
109°51.9W	34°54.0N	6/ 9/73	21°25'30	34-247	ARIZONA, NEW MEXICO, LITTLE COLORADO RIV., PUERCO RIV. C-70
109°42.3W	34°20.4N	16/ 9/73	17°22'40	46-059	ARIZONA, MOGOLLON RM, SHOW LOW, MCNARY C-30
109°51.2W	34°14.5N	16/ 9/73	17°22'37	88-101	ARIZONA, MOGOLLON RM, FT. APACHE, SHOW-LOW, SNOWFLAKE, C-35
109°02.8W	34°49.4N	16/ 9/73	17°22'52	88-102	ARIZONA, NEW MEXICO, FENCE LAKE, ZUNI, C-40
109°17.6W	35°18.3N	6/ 9/73	21°25'40	34-248	ARIZONA-NEW MEXICO, GALLUP, CHUSKA MTS. C-70
109°13.6W	35°58.5N	12/ 8/73	14°45'47	85-012	ARIZONA, NEW MEXICO, CHUSKA MTS., CANYON DE CHELLY, C-40
109°39.7W	35°03.6N	6/ 9/73	21°25'34	86-017	ARIZONA, PUERCO P., PETRIFIED FOREST, C-60
109°16.6W	35°19.6N	6/ 9/73	21°25'40	86-018	ARIZONA, NEW MEXICO, PUERCO R., GALLUP, C-65
109°40.3W	36°15.3N	12/ 8/73	14°45'40	28-192	ARIZONA, BLACK MESA, CANYON DE CHELLY C-20
109°44.0W	36°18.6N	12/ 8/73	14°45'39	85-011	ARIZONA, CANYON DE CHELLY, CHINLE WASH, C-30
109°57.1W	37°43.8N	10/ 5/73	20°08'22	40-049	UTAH-COLORADO C-95
109°50.2W	37°31.4N	15/ 9/73	18°06'55	40-338	UTAH, ARIZONA, COLORADO, COLORADO P. GOOSENECKS OF SAN JUAN, ABAJO MTS
109°12.7W	37°54.3N	15/ 9/73	18°07'05	40-339	UTAH, COLORADO, DOLORES RIV., PARADOX VALLEY, COLORADO RIV.
109°58.1W	37°25.5N	15/ 9/73	18°06'53	87-119	ARIZONA, UTAH, MONUMENT VAL., GOOSENECKS OF SAN JUAN, LAKE POWELL
109°45.0W	38°57.6N	3/ 8/73	18°02'36	22-001	UTAH, COLORADO, TAUAPUTS PLATEAU
109°06.7W	38°35.7N	3/ 8/73	18°02'46	22-002	UTAH, COLORADO, GRAND JUNCTION, MOAB, COLORADO PLATEAU
109°06.7W	38°43.0N	8/ 8/73	16°02'21	22-327	UTAH, COLORADO, GRAND JUNCTION, ROAN CLIFFS
109°31.4W	38°57.9N	8/ 8/73	16°02'14	83-306	UTAH, GREEN R., COLORADO R., MOAB, ARCHES NAT. PARK
109°06.1W	38°43.1N	8/ 8/73	16°02'20	83-307	UTAH, COLORADO, LA SAL MTS., UNCOMPAGHRE PLATEAU
109°41.3W	39°02.7N	8/ 8/73	16°02'12	22-326	UTAH, COLORADO, COLORADO R., ROAN CLIFFS
109°57.1W	39°12.4N	8/ 8/73	16°02'07	83-305	UTAH, GREEN R., DESOLATION CANYON, ROAN CLIFFS
109°49.6W	41°29.4N	4/ 8/73	17°18'41	22-103	UTAH, WYCHING, FLAMING GORGE RES., ROCK SPRINGS, C-75
109°09.4W	41°12.1N	4/ 8/73	17°18'51	83-034	WYOMING, UTAH, FLAMING GORGE RES., GREEN R., C-35
109°33.4W	42°43.6N	13/ 9/73	19°35'12	40-205	WYOMING, WIND RIV. MTS., GANNETT PEAK, SOURCE OF GREEN RIV.
109°03.1W	42°57.4N	13/ 9/73	19°35'19	88-017	WYO., WIND R. RANGE, GANNETT PEAK, WIND R., LANDER, C-60
109°00.8W	43°17.0N	5/ 8/73	16°35'44	22-217	WYOMING, WIND R., BOYSEN RES., OCEAN LAKE, C-30
109°35.7W	43°31.7N	5/ 8/73	16°34'56	83-188	WYOMING, WIND RIVER RANGE, WIND R. BASIN, DUBOIS, OWL CREEK RANGE, C-50
109°37.4W	44°38.1N	12/ 9/73	20°19'10	40-153	WYOMING, YELLOWSTONE NATIONAL PARK, ARSAROKA RANGE C-20
109°10.7W	44°48.5N	12/ 9/73	20°19'16	86-336	WYOMING, MONTANA, SHOSHONE R., BUFFALO BILL RES., CODY
109°00.8W	46°25.2N	11/ 9/73	21°03'12	86-229	MONTANA, BIG SNOWY MT., MUSSELSHELL R., ROUNDUP
109°04.2W	49°24.9N	5/ 8/73	14°57'12	83-126	SASKATCHEWAN, MONTANA, CYPRUS LAKE, FRENCHMAN R., C-15
108°44.3W	23°21.2N	9/ 9/73	19°12'30	85-276	MEXICO, BAJA CALIFORNIA, SAN JOSE DEL CABO, C-45
108°28.2W	23°37.9N	9/ 9/73	19°12'36	85-277	MEXICO, BAJA CALIFORNIA, BAHIA FARILES, C-60
108°12.0W	23°54.5N	9/ 9/73	19°12'42	85-278	PACIFIC OCEAN, C-80
108°37.7W	27°42.1N	13/ 9/73	17°55'40	40-162	MEXICO, SONORA-CHIHUAHUA, SIERRA MADRE OCCIDENTAL C-60
108°55.8W	31°59.9N	7/ 9/73	20°41'28	86-054	ARIZONA, NEW MEXICO, CHIRICAHUA MTS., APACHE WELLS
108°54.0W	32°08.0N	7/ 9/73	20°41'30	34-277	MEXICO(CHIHUAHUA), ARIZONA-NEW MEXICO, WILLCOX DRY LAKE, LORDSBURG
108°40.0W	32°04.8N	11/ 8/73	15°30'07	84-020	ARIZONA, N.M., LORDSBURG, PLAYAS LAKE, HATCHET PEAK
108°34.4W	32°16.8N	7/ 9/73	20°41'35	86-055	NEW MEXICO, ARIZONA, LORDSBURG, SAN SIMON, PLAYAS LAKE
108°12.7W	32°33.8N	7/ 9/73	20°41'42	86-056	NEW MEXICO, SILVER CITY MINES, LORDSBURG, DEMING
108°29.5W	35°28.7N	12/ 8/73	14°46'00	28-193	ARIZONA, NEW MEXICO, GALLUP, ZUNI MTS., EL MORRO C-20
108°33.8W	35°09.0N	16/ 9/73	17°23'00	46-060	ARIZONA, NEW MEXICO, GALLUP, CHUSKA MTS. C-40
108°50.6W	35°42.8N	12/ 8/73	14°45'54	85-013	ARIZONA, NEW MEXICO, GALLUP, CHUSKA MTS., ZUNI
108°27.2W	35°27.7N	12/ 8/73	14°46'01	85-014	NEW MEXICO, GALLUP, ZUNI MTS., ZUNI, EL MORRO, C-20
108°04.8W	35°11.4N	12/ 8/73	14°46'07	85-015	NEW MEXICO, ZUNI MTS., LAVA FLOWS, GRANTS, ACOMA
108°53.5W	35°35.4N	6/ 9/73	21°25'47	86-019	ARIZONA, NEW MEXICO, GALLUP, CHUSKA MTS., WINDOW ROCK, C-40
108°13.3W	35°24.0N	16/ 9/73	17°23'06	88-103	NEW MEXICO, GALLUP, GRANTS, CROWNPOINT, C-40
108°07.4W	36°05.9N	6/ 9/73	21°26'00	34-249	NEW MEXICO, CHUSKA MTS., FARMINGTON, SAN JUAN RIV. C-20
108°05.4W	36°08.0N	6/ 9/73	21°26'01	86-020	NEW MEXICO, CHUSKA MTS., CHACO CANYON, C-15
108°28.8W	38°13.1N	3/ 8/73	18°02'56	22-003	UTAH, COLORADO, LASAL MTS., PARADOX VALLEY, UNCOMPAGHRE PLATEAU
108°29.5W	38°20.7N	8/ 8/73	16°02'31	22-328	UTAH, COLORADO, UNCOMPAGHRE PLATEAU, GUNNISON R.
108°42.3W	38°28.6N	10/ 9/73	20°08'42	40-050	COLORADO C-100
108°35.1W	38°16.9N	15/ 9/73	18°07'15	40-340	UTAH, COLORADO, UNCOMPAGHRE PLATEAU, LA SAL MTS.
108°40.7W	38°28.3N	8/ 8/73	16°02'27	83-308	UTAH, COLORADO, LA SAL MTS., PARADOX VALLEY, UNCOMPAGHRE PLATEAU
108°14.3W	38°13.5N	8/ 8/73	16°02'34	83-309	COLORADO, UNCOMPAGHRE PLATEAU, DOLORES R., LA PLATE MTS.
108°07.4W	38°32.4N	15/ 9/73	18°07'22	87-120	COLORADO, UNCOMPAGHRE PLATEAU, GUNNISON P. DELTA
108°27.5W	40°48.9N	4/ 8/73	17°19'01	22-104	UTAH, COLORADO, LITTLE SNAKE R., YAMPA R., C-40

ORIGINAL PAGE IS
OF POOR QUALITY

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
108°17.3W	40°44.4N	4/ 8/73	17°19'04	83-035	WYC., UTAH., COLO., LITTLE SNAKE R., YAMPA R., C-35
108°49.9W	43°02.2N	13/ 9/73	19°35'22	40-206	WYOMING, WIND RIV. MTS., WIND RIV. CANYON, BOYSEN RES.
108°05.7W	43°20.8N	13/ 9/73	19°35'32	40-207	WYOMING, WIND RIV. CANYON, THERMOPOLIS, BIG HORN BASIN
108°32.4W	43°05.1N	5/ 8/73	16°35'10	83-189	WYOMING, BOYSEN RES., OCEAN LAKE, WIND R., LANDER, C-20
108°04.4W	45°11.5N	12/ 9/73	20°19'30	86-337	WYOMING, MONTANA, BIG HORN BASIN, BIG HORN R., BIG HORN LAKE + MTS.
107°30.8W	13°10.3N	16/ 9/73	15°41'48	46-003	PACIFIC OCEAN, 13N-107W, C-30
107°01.5W	19°27.7N	15/ 9/73	16°26'54	40-283	PACIFIC OCEAN
107°31.5W	24°34.6N	9/ 9/73	19°12'57	40-001	PACIFIC OCEAN C-95
107°55.5W	24°11.2N	9/ 9/73	19°12'48	85-279	PACIFIC OCEAN, C-80
107°39.1W	24°27.8N	9/ 9/73	19°12'54	85-280	PACIFIC OCEAN, C-80
107°22.6W	24°44.3N	9/ 9/73	19°13'00	85-281	PACIFIC OCEAN, C-90
107°06.1W	25°00.8N	5/ 9/73	19°13'06	85-282	COAST OF MEXICO, C-99
107°39.1W	28°35.8N	13/ 9/73	17°56'00	40-163	MEXICO, CHIHUAHUA, LAGUNA, BUSTILLOS, SIERRA MADRE OCCIDENTAL
107°10.1W	30°51.8N	11/ 8/73	15°30'36	84-022	MEXICO, CHIHUAHUA, LAGUNA DE SANTA MARIA, SANTA MARIA R.
107°56.9W	31°29.2N	11/ 8/73	15°30'21	28-065	NEW MEXICO, CHIHUAHUA, DEMING, CASA GRANDES RIV., GUZMAN
107°54.9W	31°28.4N	11/ 8/73	15°30'21	84-021	N.M., CHIHUAHUA, COLUMBUS, LAGUNA GUZMAN
107°50.9W	32°50.6N	7/ 9/73	20°41'48	86-057	NEW MEXICO, RIO GRANDE, BLACK RANGE, SILVER CITY MINES, C-20
107°28.8W	33°07.4N	7/ 9/73	20°41'55	86-058	NEW MEXICO, RIO GRANDE, ELEPHANT BUTTES RES., BLACK RANGE, C-20
107°06.8W	33°24.1N	7/ 9/73	20°42'02	86-059	NEW MEXICO, RIO GRANDE, ELEPHANT BUTTES RES., JORNADA DEL MUERTO
107°21.3W	34°39.7N	12/ 8/73	14°46'20	28-194	NEW MEXICO, RIO GRANDE, ALBUQUERQUE, LAVA FLOWS
107°42.0W	34°55.4N	12/ 8/73	14°46'14	85-016	NEW MEXICO, ZUNI MTS., LAVA FLOWS, GRANTS, LAGUNA
107°19.6W	34°39.4N	12/ 8/73	14°46'20	85-017	NEW MEXICO, RIO GRANDE, BELEN, LADRON MTS., MAGDALENA
107°23.9W	35°56.8N	16/ 9/73	17°23'20	46-061	NEW MEXICO, CHACO CANYON, SAN MATEO MTS., C-35
107°23.2W	35°58.2N	16/ 9/73	17°23'20	88-104	NEW MEXICO, JEMEZ MTS., CUBA, RIO PUERTO, C-40
107°17.6W	36°39.5N	6/ 9/73	21°26'14	86-021	NEW MEXICO, COLORADO, SAN JUAN R., NAVAJO LAKE, C-10
107°52.2W	37°49.9N	3/ 8/73	18°03'06	22-004	COLORADO, SAN JUAN MTS., DURANGO, VALLECITO LAKE, C-25
107°15.0W	37°27.6N	3/ 8/73	18°03'16	22-005	COLORADO, NEW MEXICO, SAN JUAN MTS., NAVAJO LAKE, DEL NORTE, C-25
107°51.6W	37°58.5N	8/ 8/73	16°02'40	22-329	COLORADO, UNCOMPAHGRE PLATEAU, PARADOX VALLEY, TELLURIDE
107°14.7W	37°35.9N	8/ 8/73	16°02'50	22-330	COLORADO, NEW MEXICO, DURANGO, NAVAJO LAKE
107°50.3W	37°58.3N	8/ 8/73	16°02'41	83-310	COLORADO, SAN JUAN MTS., TELLURIDE, SILVERTON, OLNEY, C-10
107°25.5W	37°43.1N	8/ 8/73	16°02'47	83-311	COLORADO, SAN JUAN MTS., LAS ANIMAS P., RIO GRANDE RES., C-10
107°01.2W	37°28.0N	8/ 8/73	16°02'54	83-312	COLORADO, SAN JUAN MTS., SAN JUAN R., VALLECITO RES., CREED, C-10
107°56.9W	38°39.5N	15/ 9/73	18°07'25	40-341	COLORADO, GRAND JUNCTION, GRAND MESA, GUNNISON RIV., DELTA
107°25.5W	39°12.8N	10/ 9/73	20°05'02	40-051	COLORADO, GUNNISON RIV., C-90
107°18.6W	39°01.4N	15/ 9/73	18°07'35	40-342	COLORADO, GRAND MESA, BLACK CANYON OF GUNNISON, ASPEN C-20
107°12.4W	39°04.2N	15/ 9/73	18°07'37	87-121	COLO., ASPEN, MAROON BELLS, CRESTED BUTTE, SAWATCH RANGE, C-15
107°07.4W	40°07.3N	4/ 8/73	17°15'21	22-105	COLORADO, COLORADO R., ROARING FORK, STEAMBOAT SPRINGS, C-20
107°25.2W	40°17.7N	4/ 8/73	17°15'16	83-036	COLORADO, CRAIG, YAMPA R., STEAMBOAT SPRINGS, WHITE P., C-15
107°33.8W	42°38.8N	5/ 8/73	16°35'24	22-218	WYOMING, PATHFINDER RES., SWEETWATER P., C-40
107°30.5W	42°38.1N	5/ 8/73	16°35'24	83-190	WYOMING, SWEETWATER R., OREGON TRAIL, C-30
107°20.9W	43°39.1N	13/ 9/73	19°35'42	40-208	WYOMING, BIG HORN BASIN, BIG HORN MTS., C-30
107°59.5W	43°24.1N	13/ 9/73	19°35'34	88-018	WYC., WIND R., WIND R. CANYON, THERMOPOLIS, OKL CREEK MTS.
107°49.3W	46°45.5N	11/ 9/73	21°03'26	86-230	MONTANA, MUSSELSHELL R., BOXELDER CREEK, MOSBY
107°53.0W	49°16.8N	5/ 8/73	14°57'25	83-127	SASKATCHEWAN, MONTANA, FRENCHMAN R., WHITEWATER CREEK, C-10
106°10.4W	20°24.3N	15/ 9/73	16°27'14	40-284	MEXICO, PACIFIC COAST, JALISCO, PUERTO VALLARTA C-90
106°24.2W	20°10.1N	15/ 9/73	16°27'08	87-030	PACIFIC OCEAN, C-98
106°41.7W	25°24.0N	9/ 9/73	19°13'15	40-002	CLOUDS, MEXICO, C-95
106°49.3W	25°17.4N	9/ 9/73	19°13'12	85-283	MEXICO, C-99
106°32.5W	25°33.7N	9/ 9/73	19°13'18	85-284	MEXICO, C-95
106°39.1W	29°28.4N	13/ 9/73	17°56'20	40-164	MEXICO, CHIHUAHUA, LAGUNA, ENCINILLAS, MOCTEZUMA
106°53.9W	30°37.5N	11/ 8/73	15°30'41	28-066	MEXICO, SANTA MARIA RIV., AGUAS TERMALES PLAYA, AHUMADA
106°26.2W	30°14.9N	11/ 8/73	15°30'50	84-023	MEXICO, CHIHUAHUA, VILLA AHUMADA, RIO CARMAN
106°14.0W	33°50.9N	12/ 8/73	14°46'40	28-196	NEW MEXICO MALPAIS FLOW, RIO GRANDE, SOCORRO
106°13.0W	33°51.1N	12/ 8/73	14°46'40	85-020	NEW MEXICO, RIO GRANDE, TRINITY SITE (7-16-45) MALPAIS LAVA FLOW
106°44.7W	33°40.7N	7/ 9/73	20°42'08	86-060	NEW MEXICO, TRINITY SITE (7-16-45), RIO GRANDE, JORNADA DEL MUERTO
106°22.3W	33°57.4N	7/ 9/73	20°42'15	86-061	NEW MEXICO, MALPAIS LAVA FLOW, TRINITY SITE (7-16-45), RIO GRANDE
106°47.3W	34°15.3N	12/ 8/73	14°46'30	28-195	NEW MEXICO RIO GRANDE, TRINITY SITE, MAGDALENA
106°57.2W	34°23.4N	12/ 8/73	14°46'27	85-018	NEW MEXICO, RIO GRANDE, SOCORRO, MAGDALENA MTS.
106°35.1W	34°07.2N	12/ 8/73	14°46'34	85-019	NEW MEXICO, RIO GRANDE, SOCORRO, TRINITY SITE (7-16-45)
106°01.8W	36°41.8N	3/ 8/73	18°03'36	22-007	COLORADO, NEW MEXICO, SAN LUIS VALLEY, RIO GRANDE CANYON, C-15
106°03.1W	36°49.6N	8/ 8/73	16°03'11	22-332	COLORADO, NEW MEXICO, SAN LUIS VALLEY, RIO GRANDE CANYON
106°55.9W	36°52.7N	6/ 9/73	21°26'20	34-250	NEW MEXICO-COLORADO, NAVAJO LAKE, SAN JUAN MTS., PAGCSA SPGS. C-20
106°48.3W	36°20.6N	16/ 9/73	17°23'30	46-062	NEW MEXICO, JEMEZ MTS., RIO GRANDE, LOS ALAMOS C-35
106°12.7W	36°43.8N	16/ 9/73	17°23'40	46-063	NEW MEXICO, COLORADO, SAN LUIS VALLEY, SANGRE DE CRISTO MTS. C-40

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LONGITUDE DDD°MM.MM	LATITUDE DD°MM.MM	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
106°51.3W	36°19.4N	16/ 9/73	17°23'29	88-105	NEW MEXICO, JEMEZ MTS., RIO CHAMA, C-50
106°27.5W	36°34.9N	16/ 9/73	17°23'36	88-106	NEW MEXICO, COLORADO, CONEJOS R., RIO GRANDE, SAN JUAN MTS., C-50
106°03.8W	36°50.2N	16/ 9/73	17°23'43	88-107	NEW MEXICO, COLORADO, RIO GRANDE, SAN LUIS VALLEY, C-40
106°38.4W	37°05.2N	3/ 8/73	18°03'26	22-006	COLORADO, NEW MEXICO, SAN LUIS VALLEY, CHAMA, ALAMOSA, C-15
106°38.1W	37°13.1N	8/ 8/73	16°03'00	22-331	COLORADO, NEW MEXICO, SAN JUAN MTS., SAN LUIS VALLEY
106°36.1W	37°12.6N	8/ 8/73	16°03'01	83-313	COLORADO, NEW MEXICO, CONEJOS R., SPECTACLE LAKE, CHAMA
106°28.9W	37°10.5N	6/ 9/73	21°26'27	86-022	NEW MEXICO, COLORADO, SAN JUAN MTS., CONEJOS R., MANASSA, C-18
106°06.8W	39°56.1N	10/ 5/73	20°09'22	40-052	COLORADO C-100
106°40.1W	39°23.2N	15/ 9/73	18°07'45	40-343	COLORADO, COLORADO RIV., ASPEN, LEADVILLE, SOUTH PARK C-30
106°00.5W	39°44.9N	15/ 9/73	18°07'55	40-344	COLORADO, SOUTH PARK, CLIMAX, GRANBY LAKE C-60
106°34.1W	39°50.7N	4/ 8/73	17°19'29	83-037	COLORADO, SAWATCH MTS., COLORADO R., EAGLE, KREMPLING, C-15
106°16.3W	39°35.5N	15/ 9/73	18°07'51	87-122	COLO., LEADVILLE, CLIMAX, COLORADO R., GRANBY, LOVELAND PASS, C-40
106°08.4W	42°00.9N	5/ 8/73	16°35'44	22-219	WYOMING, SHIRLEY BASIN, C-75
106°29.5W	42°10.6N	5/ 8/73	16°35'39	83-191	WYOMING, SEMINOLE RES., N. PLATTE R., MEDICINE BOW, C-50
106°36.1W	43°56.9N	13/ 5/73	19°35'52	40-209	WYOMING, BIG HORN MTS., POWDER RIV. C-40
106°55.2W	43°50.1N	13/ 9/73	19°35'48	88-019	WYO., BIG HORN MTS., TEN SLEEP, NO WOOD CREEK, POWDER R., C-40
106°57.2K	45°34.1N	12/ 9/73	20°19'44	86-338	MONTANA, LITTLE BIG HORN R., CROW AGENCY, CUSTER BATTLEFIELD
106°36.4W	47°04.9N	11/ 9/73	21°03'41	86-231	MONTANA, FORT PECK PES., SAND CREEK, VAN NORMAN
106°41.5W	49°06.0N	5/ 8/73	14°57'38	83-128	SASKATCHEWAN, MONTANA, FRENCHMAN R., OPHEIM
105°47.0W	20°51.0N	15/ 9/73	16°27'23	87-031	MEXICO, JALISCO, NAYARIT, PACIFIC COAST, C-90
105°19.0W	21°20.6N	15/ 9/73	16°27'34	40-285	MEXICO, JALISCO, NAYARIT, PUERTO VALLARTA, TEPC C-80
105°09.4W	21°31.5N	15/ 9/73	16°27'37	87-032	MEXICO, JALISCO, NAYARIT, PACIFIC COAST, C-80
105°03.2W	26°31.8N	14/ 9/73	17°12'20	40-231	MEXICO, CHIHUAHUA-SONORA, JIMENEZ, HIDALGO DEL PARPAI
105°52.9W	29°45.4N	11/ 8/73	15°31'01	28-067	MEXICO, CHIHUAHUA STATE, CERRO DEL FIERRO + SAN MARTIN BORRACHO C-30
105°37.8W	30°20.8N	13/ 9/73	17°56'40	40-165	MEXICO, USA, CHIHUAHUA-TEXAS, RIO GRANDE, BOSQUE BONITO
105°41.4W	33°26.7N	12/ 8/73	14°46'50	28-197	NEW MEXICO, SACRAMENTO MTS., WHITE SANDS, CAPITAN MTS.
105°08.8W	33°01.8N	12/ 8/73	14°47'00	28-198	NEW MEXICO, SACRAMENTO MTS., ROSWELL, PECOS RIV.
105°51.3W	33°34.8N	12/ 8/73	14°46'47	85-021	NEW MEXICO, MALPAIS LAVA FLOW, CARRIZOZO, RUIDOSO, TULAROSA
105°29.2W	33°18.5N	12/ 8/73	14°46'53	85-022	NEW MEXICO, ALAMOGORDO, CLOUDCROFT, TULAROSA, SACRAMENTO MTS.
105°07.8W	33°02.0N	12/ 8/73	14°47'00	85-023	NEW MEXICO, SACRAMENTO MTS., MAYHILL, GUADALUPE MTS.
105°59.9W	34°13.8N	7/ 9/73	20°42'22	86-062	NEW MEXICO, CORONA, GRAN QUIVIRA, GALLINAS PEAK, C-15
105°37.1W	34°30.3N	7/ 9/73	20°42'28	86-063	NEW MEXICO, GALLINAS PEAK, LAGUNA DEL PERRO, C-25
105°14.0W	34°46.6N	7/ 9/73	20°42'35	86-064	NEW MEXICO, LAGUNA DEL PERRO, VAUGHN, FNCTNO, C-30
105°25.6W	36°26.7N	8/ 8/73	16°03'21	22-333	NEW MEXICO, COLORADO, SANGRE DE CRISTO MTS.
105°41.7W	37°39.3N	6/ 9/73	21°26'40	34-251	COLORADO, SAN LUIS VALLEY, ALAMOSA, GREAT SAND DUNES, RIO GRANDE C-20
105°36.1W	37°07.0N	16/ 9/73	17°23'50	46-064	NEW MEXICO, COLORADO, SAN LUIS VALLEY, SANGRE DE CRISTO MTS. C-40
105°12.7W	37°57.6N	6/ 9/73	21°26'48	86-023	COLORADO, GREAT SAND DUNES, SANGRE DE CRISTO MTS., C-60
105°39.7W	37°05.6N	16/ 9/73	17°23'49	88-108	COLORADO, N.M., SAN LUIS VALLEY, RIO GRANDE, ALAMOSA, C-35
105°15.7W	37°20.7N	16/ 9/73	17°23'56	88-109	COLORADO, GREAT SAND DUNES, SANGRE DE CRISTO MTS, SPANISH PEAKS, C-30
105°10.1W	39°03.4N	4/ 8/73	17°19'51	22-106	COLORADO, SOUTH PARK, DENVER, LEADVILLE, C-40
105°43.4W	39°24.3N	4/ 8/73	17°19'42	83-038	COLORADO, LEADVILLE, SOUTH PARK, 11-MILE RES., CLIMAX, DILLON, C-45
105°21.3W	40°06.2N	15/ 9/73	18°08'05	40-345	COLORADO, GRANBY LAKE, ROCKY MT. NAT. PARK C-80
105°15.4W	40°24.1N	10/ 9/73	20°05'35	85-388	COLORADO, WELLINGTON, C-90
105°19.3W	40°06.3N	15/ 9/73	18°08'05	87-123	COLC., GRANBY LAKE, C-75
105°29.2W	41°42.9N	5/ 8/73	16°35'53	83-192	WYOMING, COLORADO, LARAMIE BASIN, C-90
105°50.6W	44°14.5N	13/ 9/73	19°36'02	40-210	WYOMING, POWDER RIV., KEYHOLE RES., GILLETTE C-25
105°05.1W	44°31.5N	13/ 9/73	19°36'12	40-211	WYOMING, SOUTH DAKOTA, DEVIL'S TOWER, BLACK HILLS, C-11
105°49.6W	44°15.5N	13/ 9/73	19°36'02	88-020	WYO., POWDER R., BELLE FOURCHE R., GILLETTE, C-15
105°49.0W	45°56.4N	12/ 9/73	20°19'58	86-339	MONTANA, MILES CITY, TONGUE R., POWDER R., YELLOWSTONE R.
105°22.6W	47°23.5N	11/ 9/73	21°03'55	86-232	MONTANA, GLENDALE, YELLOWSTONE R., REDWATER CREEK
105°19.0W	48°03.3N	9/ 8/73	13°41'01	28-001	MONTANA, FORT PECK DAM, MISSOURI RIV.
105°30.7W	48°54.4N	5/ 8/73	14°57'50	83-129	SASKATCHEWAN, MONTANA, POPLAR R., SCORFY, C-15
104°25.6W	22°17.6N	15/ 9/73	16°27'54	40-286	MEXICO, JALISCO, ZACATECAS, DURANGO STS., SIERRA MADRE OCCIDENTAL C-75
104°31.5W	22°12.2N	15/ 9/73	16°27'51	87-033	MEXICO, JALISCO, NAYARIT, RIO GRANDE DE SANTIAGO, C-80
104°05.5W	27°25.8N	14/ 9/73	17°12'40	40-232	MEXICO, CHIHUAHUA-SONORA, DURANGO, RIO FLORIDO
104°35.8W	31°12.4N	13/ 9/73	17°57'00	40-166	TEXAS-NEW MEXICO, SIERRA DIABLO, VAN HORN, SALT FLAT
104°36.1W	32°36.9N	12/ 8/73	14°47'10	28-199	NEW MEXICO, TEXAS, GUADALUPE MTS., CARLSBAD, PECOS RIV.
104°04.2W	32°11.7N	12/ 8/73	14°47'20	28-200	NEW MEXICO, TEXAS, GUADALUPE MTS., CARLSBAD, PECOS RIV.
104°51.3W	35°54.9N	3/ 8/73	18°03'56	22-008	NEW MEXICO, SANGRE DEL CRISTO MTS., LAS VEGAS, EAGLE NEST, C-15
104°14.1W	35°39.7N	8/ 8/73	16°03'40	22-335	NEW MEXICO, LAS VEGAS, CONCHOS RES., CANADIAN R.
104°20.1W	35°18.9N	7/ 9/73	20°42'50	34-278	NEW MEXICO, LAS VEGAS C-60
104°51.3W	35°02.8N	7/ 9/73	20°42'42	86-065	NEW MEXICO, SANTA ROSA, PECOS R., C-40
104°27.9W	35°18.9N	7/ 9/73	20°42'45	86-066	NEW MEXICO, PECOS R., MESA CHERISCO, C-60
104°04.5W	35°35.1N	7/ 9/73	20°42'55	86-067	NEW MEXICO, MONTOSA MESA, C-90
104°50.3W	36°03.1N	8/ 8/73	16°03'31	22-334	NEW MEXICO, SANGRE DE CRISTO MTS., PHILMONT

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
104°59.9W	37°29.9N	16/ 9/73	17:24:00	46-065	COLORADO, GREAT SAND DUNES, SANGRE DE CRISTO MTS. C-45
104°22.6W	37°52.9N	16/ 9/73	17:24:10	46-066	COLORADO, WET MTS. C-75
104°51.3W	37°35.9N	16/ 9/73	17:24:02	88-110	COLORADO, SPANISH PEAKS, SANGRE DE CRISTO MTS., WALSENBURG, C-35
104°26.9W	37°50.9N	16/ 9/73	17:24:09	88-111	COLORADO, WALSENBURG, HUERFANO R., C-65
104°31.5W	38°42.5N	4/ 8/73	17:20:01	22-107	COLORADO, DENVER, COLORADO SPRINGS, SOUTH PARK, C-40
104°27.2W	38°24.2N	6/ 9/73	21:27:00	34-252	COLORADO, SANGRE DE CRISTO MTS., PUEBLO, PIKES PEAK C-20
104°53.9W	38°54.5N	4/ 8/73	17:19:55	83-039	COLORADO, COLORADO SPRINGS, PIKES PEAK, SOUTH PLATTE, FORT CARSON, C-10
104°04.8W	38°26.0N	4/ 8/73	17:20:08	83-040	COLORADO, PUEBLO, ARKANSAS R., DOT FACILITY, ORDWAY
104°18.7W	38°29.9N	6/ 9/73	21:27:02	86-024	COLORADO, PUEBLO, ARKANSAS R., C-50, OVEREXPOSED
104°02.2W	38°05.9N	16/ 9/73	17:24:16	88-112	COLORADO, APISHAPA R., C-92
104°47.3W	40°38.0N	10/ 9/73	20:09:42	40-053	COLORADO, SOUTH PLATTE RIV., JACKSON LAKE, GREELEY C-60
104°19.7W	40°52.8N	10/ 9/73	20:09:49	85-389	COLORADO, WYOMING, CHEYENNE, GREENLEY, CACHE LA POUDE R., C-30
104°21.6W	40°36.7N	15/ 9/73	18:08:20	87-124	COLO., WYOMING, C-100
104°44.7W	41°22.1N	5/ 8/73	16:36:04	22-220	WYOMING, COLORADO, LARAMIE MTS., C-90
104°29.9W	41°14.2N	5/ 8/73	16:36:07	83-193	WYOMING, COLORADO, NEBRASKA, C-96
104°18.0W	44°48.5N	13/ 9/73	19:36:22	40-212	WYOMING, SOUTH DAKOTA, BLACK HILLS, BELLE FOURCITE RIV. C-20
104°43.4W	44°40.1N	13/ 9/73	19:36:17	88-021	WYCO., MONT., S.D., BLACK HILLS, SUNDANCE, SPEARFISH, DEVIL'S TOWER C-15
104°40.1W	46°16.8N	12/ 9/73	20:20:12	86-340	MONTANA, N.D., BAKER, D'FALLON CREEK
104°08.1W	47°41.2N	11/ 9/73	21:04:09	86-233	MONTANA, N.D., GARRISON RES., YELLOWSTONE R., SIDNEY
104°21.3W	48°45.0N	5/ 8/73	14:58:03	83-130	MONTANA, N. DAKOTA, MEDICINE LAKE, C-20
103°03.2W	18°28.9N	16/ 9/73	15:43:38	46-004	MEXICO, MICHOACAN, PUNTA SAN TEMLO, RIO TEPALCATEPEC, C-30
103°47.7W	23°27.8N	10/ 9/73	18:29:40	40-021	MEXICO, DURANGO-ZACATECAS, SIERRA MADRE OCCIDENTAL
103°32.5W	23°13.3N	15/ 9/73	16:28:14	40-287	MEXICO, DURANGO, ZACATECAS STATES, C-95
103°42.4W	23°03.6N	15/ 9/73	16:28:10	87-034	MEXICO, JALISCO, NAYARIT, C-80
103°06.8W	28°19.4N	14/ 9/73	17:13:00	40-233	MEXICO, USA, TEXAS, BIG BEND, COAHUILA, LAGUNA CABLAS C-15
103°00.9W	31°21.0N	12/ 8/73	14:47:40	28-201	TEXAS, PECOS RIV., MONAHANS, SAND HILLS, PECOS
103°35.5W	31°37.0N	18/ 9/73	15:55:45	46-181	TEXAS C-100
103°43.7W	31°55.2N	13/ 9/73	17:57:17	87-001	TEXAS, N.M., PECOS R., RED BLUFF RES., LOVING
103°32.2W	32°03.7N	13/ 9/73	17:57:20	40-167	TEXAS-NEW MEXICO, PECOS RIV., CARLSBAD, RED BLUFF LAKE
103°00.2W	32°29.5N	13/ 9/73	17:57:30	87-002	TEXAS, N.M., HOBBS, SEMINOLE, ANDREWS, EUNICE
103°05.2W	34°51.7N	8/ 8/73	16:04:00	22-337	NEW MEXICO, TEXAS, CLOVIS, PORTALES, LLANO ESTACADO
103°41.8W	35°06.6N	3/ 8/73	18:04:16	22-009	NEW MEXICO, TEXAS, CONCHAS RES., TUCUMCARI, CANADIAN R.
103°40.8W	35°15.6N	8/ 8/73	16:03:50	22-336	NEW MEXICO, TUCUMCARI, UTE LAKE, LLANO ESTACADO
103°44.3W	35°42.7N	7/ 9/73	20:43:00	34-279	NEW MEXICO- COLORADO- TEXAS- OKLAHOMA- CANADIAN RIVER C-80
103°41.1W	35°50.9N	7/ 9/73	20:43:02	86-068	NEW MEXICO, MONTOSA MESA, C-95
103°08.4W	36°06.5N	7/ 9/73	20:43:10	34-280	NEW MEXICO- COLORADO- TEXAS- OKLAHOMA C-90
103°17.4W	36°06.9N	7/ 9/73	20:43:05	86-069	NEW MEXICO, C-96
103°16.4W	37°58.1N	4/ 8/73	17:20:21	22-109	COLORADO, ARKANSAS R., PUEBLO, LAJUNTA
103°16.0W	37°59.0N	4/ 8/73	17:20:21	83-041	COLORADO, ARKANSAS R., LA JUNTA, ROCKY FORD, LAMAR
103°55.9W	38°21.0N	4/ 8/73	17:20:11	22-108	COLORADO, COLORADO SPRINGS, PIKE'S PEAK, PUEBLO
103°44.7W	38°15.4N	16/ 9/73	17:24:20	46-067	COLORADO, C-90
103°07.2W	38°37.7N	16/ 9/73	17:24:30	46-068	COLORADO, C-100
103°37.1W	38°20.7N	16/ 9/73	17:24:22	88-113	COLORADO, C-100
103°12.4W	38°35.4N	16/ 9/73	17:24:29	88-114	COLORADO, C-100
103°11.1W	39°08.3N	6/ 9/73	21:27:20	34-253	COLORADO, LIMON, BIG SANDY CREEK C-50
103°23.6W	39°01.7N	6/ 9/73	21:27:17	86-025	COLORADO, HORSE CREEK, C-65, OVEREXPOSED
103°23.6W	40°40.1N	5/ 8/73	16:36:24	22-221	WYOMING, COLORADO, NEBRASKA, NO. 850 PLATTE
103°31.5W	40°45.9N	5/ 8/73	16:36:21	83-194	COLORADO, NEBRASKA, S. PLATTE R., STERLING, C-40
103°25.0W	41°21.0N	10/ 9/73	20:10:02	40-054	COLORADO, NEBRASKA, SOUTH + NORTH PLATTE RIVS., STERLING C-50
103°22.6W	41°21.0N	10/ 9/73	20:10:02	85-390	COLO., WYO., NEB., N. PLATTE R., BRIDGEPORT, CHIMNEY ROCK, C-50
103°22.6W	41°06.3N	15/ 9/73	18:08:34	87-125	COLO., NEBRASKA, C-100
103°31.5W	45°04.9N	13/ 9/73	19:36:32	40-213	SOUTH DAKOTA, BLACK HILLS, TWO TOP PEAK, BELLE FOURCITE RIV. C-30
103°35.8W	45°04.0N	13/ 9/73	19:36:31	88-022	S.D., WYCO., MONT., LITTLE MISSOURI R., MOREAU P., C-40
103°30.2W	46°36.9N	12/ 9/73	20:20:26	86-341	N.D., LITTLE MISSOURI R., N.D. BADLANDS
103°34.2W	47°39.7N	9/ 8/73	13:41:21	28-002	MONTANA, YELLOWSTONE RIV., GLENDIVE, MISSOURI RIV. C-25
103°11.8W	48°31.4N	5/ 8/73	14:58:16	83-131	N. DAKOTA, WILLISTON, MISSOURI R., C-80
102°12.8W	19°26.2N	16/ 9/73	15:43:58	46-005	MEXICO, MICHOACAN, PATZCUARO, URUAPAN, C-60
102°53.0W	24°23.5N	10/ 9/73	18:30:00	40-022	MEXICO, COAHUILA-ZACATECAS-DURANGO, JUAN ALDAMA C-75
102°07.2W	29°12.4N	14/ 9/73	17:13:20	40-234	MEXICO, USA, COAHUILA-TEXAS, RIO GRANDE, BIG BEND C-30
102°27.6W	32°54.4N	13/ 9/73	17:57:40	40-168	TEXAS-NEW MEXICO, LLANO ESTACADO, HOBBS, OIL FIELDS
102°31.6W	32°27.5N	18/ 9/73	15:56:05	46-182	OKLAHOMA, TEXAS C-100
102°16.4W	33°03.3N	13/ 9/73	17:57:44	87-003	TEXAS, LUBBOCK, CLEVELAND, BROWNFIELD, LA MESA
102°34.2W	34°18.0N	3/ 8/73	18:04:36	22-010	NEW MEXICO, TEXAS, CLOVIS, LLANO ESTACADO, LEVELLAND

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
102°30.6W	34°27.2N	8/ 8/73	16°04°11	22-338	NEW MEXICO, TEXAS, CLOVIS, MULESHOE, HEREFORD
102°32.5W	36°30.3N	7/ 9/73	20°43°20	34-281	NEW MEXICO- COLORADO- OKLAHOMA- TEXAS- KANSAS C-98
102°53.6W	36°22.7N	7/ 9/73	20°43°15	86-070	NEW MEXICO, C-93
102°29.6W	36°38.4N	7/ 9/73	20°43°22	86-071	NEW MEXICO, C-100
102°05.2W	36°53.9N	7/ 9/73	20°43°25	86-072	NEW MEXICO, C-100
102°39.1W	37°33.6N	4/ 8/73	17°20°31	22-110	COLORADO, ARKANSAS R., LAJUNTA, LAMAR
102°05.5W	37°07.2N	4/ 8/73	17°20°42	22-111	COLORADO, KANSAS, CIMARRON R., SPRINGFIELD
102°28.9W	37°27.5N	4/ 8/73	17°20°34	83-042	COLORADO, KANSAS, SPRINGFIELD, COMANCHE NAT. GRASSLAND, CIMARRON R.
102°28.6W	38°59.8N	16/ 9/73	17°24°40	46-069	COLORADO, C-100
102°47.0W	38°50.0N	16/ 9/73	17°24°35	88-115	COLORADO, C-100
102°03.2W	39°59.4N	5/ 8/73	16°36°44	22-222	COLORADO, REPUBLICAN R., BONNY RES.
102°27.6W	39°33.2N	6/ 9/73	21°27°31	86-026	COLORADO, KANSAS, REPUBLICAN R., C-75
102°21.7W	39°04.5N	16/ 9/73	17°24°42	88-116	COLORADO, KANSAS, C-100
102°34.2W	40°14.9N	5/ 8/73	16°36°36	83-195	COLORADO, AKRON, HOLYOKE, HAXTUN
102°25.3W	41°48.5N	10/ 9/73	20°10°16	85-391	NEB., N. PLATTE R., ALLIANCE, SAND HILLS, C-40
102°23.0W	41°35.5N	15/ 9/73	18°08°49	87-126	NEBRASKA, C-100
102°01.0W	42°02.0N	10/ 9/73	20°10°22	40-055	NEBRASKA, NORTH PLATTE RIV., LAKE MCCONAUGHY, SAND HILLS C-60
102°44.1W	45°21.1N	13/ 9/73	19°36°42	40-214	SOUTH DAKOTA, MOREAU RIV. C-40
102°27.6W	45°27.2N	13/ 9/73	19°36°46	88-023	S.D., N.D., MOREAU R., GRAND R., C-70
102°53.0W	47°58.0N	11/ 9/73	21°04°24	86-234	N.D., GARRISON RES., WILLISTON, LITTLE MISSOURI R.
102°02.6W	48°17.6N	5/ 8/73	14°58°29	83-132	N. DAKOTA, C-95
101°21.7W	20°22.9N	16/ 9/73	15°44°18	46-006	MEXICO, MICHOACAN, GUANAJUATO, CELAYA, IRAPUATO, C-75
101°40.1W	20°03.3N	16/ 9/73	15°44°11	88-035	MEXICO, PATZCUARO AND GUITZEL LAKES, C-80
101°02.9W	20°44.2N	16/ 9/73	15°44°25	88-036	MEXICO, GUANAJUATO, CLEYA, IRAPUATO, LAGUNA DE YURIRIA, C-60
101°57.9W	25°18.4N	10/ 9/73	18°30°20	40-023	MEXICO, COAHUILA-ZACATECAS-PARRAS, SIERRA MADRE ORIENTAL C-50
101°01.3W	26°13.3N	10/ 9/73	18°30°40	40-024	MEXICO, COAHUILA-NEW LEO, MONCLOVA SALTILLO C-70
101°58.6W	30°29.6N	12/ 8/73	14°48°00	28-202	TEXAS, MEXICO, PECOS RIV., RIO GRANDE, OZONA, C-20
101°06.9W	30°04.7N	14/ 9/73	17°13°40	40-235	TEXAS-COAHUILA, AMISTAD RES., RIO GRANDE, PECOS RIV. C-30
101°27.0W	33°28.5N	3/ 8/73	18°04°56	22-011	TEXAS, LUBBOCK, LLANO ESTACADO, CAP ROCK ESCARPMENT, C-10
101°24.0W	33°38.2N	8/ 8/73	16°04°31	22-340	TEXAS, LUBBOCK, LLANO ESTACADO, CAPROCK ESCARPMENT, C-10
101°54.6W	33°19.3N	13/ 9/73	17°57°50	40-169	TEXAS, LLANO ESTACADO, LUBBOCK, PLAINVIEW
101°21.4W	33°43.8N	13/ 9/73	17°58°00	40-170	TEXAS, LLANO ESTACADO, CAPROCK ESCARPMENT, LUBBOCK
101°26.0W	33°18.0N	18/ 9/73	15°56°25	46-183	OKLAHOMA, TEXAS C-100
101°31.9W	33°37.1N	13/ 9/73	17°57°57	87-004	TEXAS, LUBBOCK, CAPROCK ESCARPMENT, SLATON, CROSBYTOWN
101°09.8W	33°53.9N	13/ 9/73	17°58°04	87-005	TEXAS, CAPROCK ESCARPMENT, TURKEY MATADOR, FLOYDADA
101°57.3W	34°02.8N	8/ 8/73	16°04°21	22-339	TEXAS, LUBBOCK, PLAINVIEW, LEVELLAND
101°56.7W	36°54.1N	7/ 9/73	20°43°30	34-282	KANSAS- OKLAHOMA C-100
101°20.9W	37°17.9N	7/ 9/73	20°43°40	34-283	KANSAS C-100
101°41.1W	37°00.0N	4/ 8/73	17°20°47	83-043	COLORADO, KANSAS, OKLA., CIMARRON R., N. CANADIAN R., LIBERAL, GUYMON
101°41.1W	37°09.5N	7/ 9/73	20°43°35	86-073	NEW MEXICO, COLORADO, OKLAHOMA, TEXAS, C-100
101°16.4W	37°24.8N	7/ 9/73	20°43°42	86-074	COLORADO, OKLAHOMA, TEXAS, KANSAS, C-100
101°52.3W	39°51.7N	6/ 9/73	21°27°40	34-254	COLORADO-KANSAS-NEBRASKA, REPUBLICAN RIVER, ST. FRANCIS C-40
101°50.0W	39°21.5N	16/ 9/73	17°24°50	46-070	COLORADO, KANSAS, C-100
101°10.8W	39°43.3N	16/ 9/73	17°25°00	46-071	KANSAS, NEBRASKA C-100
101°37.5W	39°45.1N	5/ 8/73	16°36°50	83-196	COLORADO, KANSAS, NEBRASKA, ST. FRANCIS, WRAY
101°56.0W	39°18.9N	16/ 9/73	17°24°49	88-117	COLORADO, KANSAS, C-100
101°30.3W	39°33.2N	16/ 9/73	17°24°55	88-118	KANSAS, C-100
101°04.5W	39°47.4N	16/ 9/73	17°25°02	88-119	KANSAS, C-100
101°30.9W	40°04.0N	6/ 9/73	21°27°46	86-027	NEBRASKA, KANSAS, SWANSON LAKE, REPUBLICAN R., C-65
101°26.6W	42°15.7N	10/ 9/73	20°10°30	85-392	NEB., SAND HILL COUNTRY, WHITMAN, DISMAL CREEK, LOUP R., C-40
101°22.3W	42°04.0N	15/ 9/73	18°09°03	87-127	NEBRASKA, C-100
101°56.3W	45°36.8N	13/ 9/73	19°36°52	40-215	SOUTH DAKOTA, NORTH DAKOTA, SHADE HILL
101°51.7W	47°15.5N	5/ 8/73	13°41°41	28-003	NORTH DAKOTA, GARRISON RES., MISSOURI RIV. C-30
101°36.5W	48°12.3N	11/ 9/73	21°04°38	86-235	N.D., MINOT, LAKE DARLING, SOURIS R.
100°29.6W	21°19.8N	16/ 9/73	15°44°38	46-007	MEXICO, GUANAJUATO, SAN MIGUEL ALLENDE, C-85
100°25.7W	21°24.9N	16/ 9/73	15°44°40	88-037	MEXICO, SAN LUIS DE LA PAZ, SIERRA GORDA, C-85
100°04.6W	27°07.3N	10/ 9/73	18°31°00	40-025	MEXICO, COAHUILA-NEW LEO C-60
100°58.0W	29°37.6N	17/ 8/73	14°48°20	28-203	TEXAS, MEXICO, RIO GRANDE, AMISTAD RES. C-70
100°29.6W	30°59.9N	5/ 9/73	19°15°21	40-003	TEXAS, SAN ANGELO, C-65
100°04.9W	30°56.6N	14/ 9/73	17°14°00	40-236	TEXAS, EDWARDS PLATEAU, SAN SABA RIV., BRADY C-60
100°22.0W	32°38.9N	3/ 8/73	18°05°16	22-012	TEXAS, SNYDER, COLORADO CITY, C-25
100°18.4W	32°48.6N	8/ 8/73	16°04°50	* 22-342	TEXAS, SWEETWATER, COLORADO CITY, C-95
100°51.0W	33°13.5N	8/ 8/73	16°04°40	* 22-341	TEXAS, CAPROCK ESCARPMENT, SNYDER, COLORADO R., C-20

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
100°47.7W	34°08.9N	13/ 9/73	17°58'10	40-171	TEXAS, CAPROCK ESCARPMENT, PALO DURO CANYON, RED RIV.
100°14.1W	34°33.3N	13/ 9/73	17°58'20	40-172	TEXAS, OKLAHOMA, RED RIV., ALTUS, SHAMROCK
100°19.7W	34°07.2N	18/ 9/73	15°56'45	46-184	OKLAHOMA, C-100
100°47.1W	34°09.9N	13/ 9/73	17°58'10	87-006	TEXAS, CAPROCK ESCARPMENT, PRAIRIE DOG TOWN FORK, TURKEY
100°25.3W	34°26.4N	13/ 9/73	17°58'17	87-007	TEXAS, PRAIRIE DOG TOWN FORK, CHILDRESS, QUANAH
100°02.9W	34°42.3N	13/ 9/73	17°58'24	87-008	TEXAS, OKLA., NORTH FORK OF RED, CHILDRESS, WELLINGTON
100°01.6W	34°21.1N	18/ 9/73	15°56'50	88-208	OKLA., TEXAS., C-100
100°09.2W	35°59.3N	4/ 8/73	17°21'13	83-045	OKLA., TEX., CANADIAN R., CANADIAN, SHATTUCK
100°49.7W	36°25.2N	4/ 8/73	17°21'02	22-112	TEXAS, OKLAHOMA, KANSAS, CANADIAN R., CIMARRON R.
100°55.0W	36°29.6N	4/ 8/73	17°21'00	83-044	KAN., OKLA., TEX., LIBERAL, N. CANADIAN R., PERRYTON, SPEARMAN
100°45.1W	37°41.8N	7/ 9/73	20°43'50	34-284	KANSAS C-100
100°51.7W	37°40.2N	7/ 9/73	20°43'49	86-075	COLORADO, OKLAHOMA, C-100
100°27.0W	37°55.5N	7/ 9/73	20°43'56	86-076	KANSAS, C-100
100°09.3W	38°05.2N	7/ 9/73	20°44'00	34-285	KANSAS C-100
100°01.6W	38°10.7N	7/ 9/73	20°44'02	86-077	KANSAS, C-100
100°45.1W	39°16.7N	5/ 8/73	16°37'04	22-223	COLORADO, KANSAS, SMOKY HILL R., COLBY
100°41.5W	39°15.4N	5/ 8/73	16°37'04	83-197	KANSAS, COLBY, OAKLEY, PRAIRIE DOG CREEK, SALINE R.
100°32.9W	40°33.7N	6/ 9/73	21°28'00	34-255	KANSAS-NEBRASKA, REPUBLICAN RIV., MCCOOK, PLATTE RIV., NORTH PLATTE
100°31.3W	40°04.7N	16/ 9/73	17°25'10	46-072	KANSAS, NEBRASKA C-100
100°32.9W	40°34.2N	6/ 9/73	21°28'00	86-028	NEBRASKA, PLATTE R., GOTHENBURG, C-20
100°19.1W	40°11.8N	16/ 9/73	17°25'13	88-120	KANSAS, NEBRASKA, C-100
100°36.0W	42°39.0N	10/ 9/73	20°10'42	40-056	NEBRASKA, SAND HILL COUNTRY, LOUP RIV. C-6C
100°46.4W	42°33.8N	10/ 9/73	20°10'39	85-393	NEB., SAND HILL COUNTRY, LOUP R., C-50
100°17.7W	42°46.4N	10/ 9/73	20°10'46	85-394	NEB., S. D., SAND HILLS, NIOBRARA R., C-60
100°21.0W	42°31.9N	15/ 9/73	18°09'17	87-128	NEBRASKA, S.D., C-100
100°10.2W	44°51.8N	20/ 9/73	21°00'36	46-251	S. DAKOTA, C-100
100°01.6W	44°49.0N	20/ 9/73	21°00'37	88-310	S.D., C-100
100°10.5W	46°48.3N	9/ 8/73	13°42'01	28-004	NORTH DAKOTA, SOUTH DAKOTA, MISSOURI RIV., DATHERS, BISMARCK C-35
100°37.0W	47°22.0N	12/ 9/73	20°20'58	86-342	N.D., MISSOURI R., GARRISON DAM + RES., UNDERWOOD
100°38.2W	48°24.7N	11/ 9/73	21°04'49	34-345	NORTH DAKOTA-MANITOBA, MINOT, TURTLE MT.
100°54.7W	48°05.9N	5/ 8/73	14°58'42	83-133	N. DAKOTA, C-99
100°19.7W	48°28.8N	11/ 9/73	21°04'53	86-236	N.D., MANITOBA, TURTLE MT., SOURIS R.
100°15.8W	49°19.4N	19/ 9/73	20°06'43	46-212	N. DAKOTA, MANITOBA, TURTLE MT.
99°56.3W	16°28.9N	17/ 9/73	15°00'02	46-080	MEXICO, GUERRERO, ACAPULCO C-65
99°06.9W	17°26.9N	17/ 9/73	15°00'22	46-081	MEXICO, GUERRERO, PUEBLA, MORELOS, RIO MEZCALA C-85
99°37.2W	22°15.8N	16/ 9/73	15°44'58	46-008	MEXICO, SAN LUIS POTOSI-TAMAULIPAS STS., VALLES, CARDENAS, C-80
99°57.6W	28°45.4N	12/ 8/73	14°48'40	28-204	TEXAS, MEXICO, RIO GRANDE, EAGLE PASS C-60
99°05.9W	28°01.2N	10/ 9/73	18°31'20	40-026	TEXAS, NEUCES RIV. C-80
99°17.4W	31°48.2N	3/ 8/73	18°05'36	22-013	TEXAS, BROWNWOOD, COLORADO R., HORDS CREEK RES., C-15
99°13.8W	31°58.0N	8/ 8/73	16°05'11	* 22-344	TEXAS, BROWNWOOD, BROWNWOOD LAKE, COLORADO R., C-55
99°26.7W	31°51.0N	5/ 9/73	19°15'41	40-004	TEXAS, AILENE C-70
99°01.9W	31°48.0N	14/ 9/73	17°14'20	40-237	TEXAS, PROCTOR RES., BROWNWOOD, COMANCHE C-45
99°56.7W	31°27.9N	9/ 9/73	19°15'31	85-285	TEXAS, SAN ANGELO, C-45
99°46.4W	32°23.6N	8/ 8/73	16°05'00	* 22-343	TEXAS, SWEETWATER, COLORADO CITY, C-55
99°12.8W	32°02.8N	9/ 9/73	19°15'45	85-286	TEXAS, LAKE BROWNWOOD, C-75
99°39.8W	34°57.5N	13/ 9/73	17°58'30	40-173	TEXAS, OKLAHOMA, RED RIV., ELK CITY, QUARTZ MT. C-20
99°11.2W	34°56.4N	18/ 9/73	15°57'05	46-185	OKLAHOMA, C-100
99°39.8W	34°58.2N	13/ 9/73	17°58'30	87-009	TEXAS, OKLA., ELK CITY, ALTUS, NORTH FORK OF RED, C-10
99°12.5W	34°56.2N	18/ 9/73	15°57'04	88-209	OKLAHOMA, C-100
99°39.8W	35°36.2N	4/ 8/73	17°21'21	22-113	TEXAS, OKLAHOMA, CANADIAN R., ELK CITY, C-20
99°05.2W	35°21.7N	13/ 9/73	17°58'40	40-174	OKLAHOMA, ALTUS, QUARTZ MT., ELK CITY, CANADIAN RIV. C-50
99°24.7W	35°27.2N	4/ 8/73	17°21'25	83-046	OKLA., CANADIAN R., N. FORK OF RED R., ELK CITY, C-30
99°17.1W	35°14.2N	13/ 9/73	17°58'37	87-010	OKLA., ELK CITY, CLINTON, SAYER, C-7C
99°28.3W	38°33.6N	5/ 8/73	16°37'24	22-224	KANSAS, SMOKY HILL R., HAYS, ARKANSAS R., GREAT BEND
99°30.7W	38°27.1N	7/ 9/73	20°44'10	34-286	KANSAS C-100
99°47.1W	38°43.1N	5/ 8/73	16°37'19	83-198	KANSAS, CEDAR BLUFF RES., SMOKY HILL R., NESS CITY
99°36.5W	38°25.6N	7/ 9/73	20°44'09	86-078	KANSAS, C-100
99°10.8W	38°40.5N	7/ 9/73	20°44'16	86-079	KANSAS, C-100
99°10.8W	40°46.5N	16/ 9/73	17°25'30	46-073	NEBRASKA, C-100
99°20.7W	40°42.1N	16/ 9/73	17°25'28	88-121	KANSAS, NEBRASKA, C-100
99°10.8W	41°15.1N	6/ 9/73	21°28'20	34-256	NEBRASKA, PLATTE RIV., GRAND ISLAND, SAND HILLS, LOUP RIV.
99°34.6W	41°04.0N	6/ 9/73	21°28'14	86-029	NEBRASKA, PLATTE R., LEXINGTON
99°49.1W	42°58.9N	10/ 9/73	20°10'53	85-395	NEB., S. D., SAND HILLS, AINSWORTH, NIOBRARA R., C-60
99°18.4W	42°59.2N	15/ 9/73	18°09'32	87-129	NEBRASKA, S.D., FT. RANDALL RES., C-80
99°08.0W	43°16.0N	10/ 9/73	20°11'02	40-057	NEBRASKA, SOUTH DAKOTA, MISSOURI RIV., LAKE F. CASE, C-50
99°20.1W	43°11.1N	10/ 9/73	20°10'59	85-396	NEB., S. D., FT. RANDALL RES., MISSOURI R., C-40
99°24.0W	44°35.4N	20/ 9/73	21°00'46	46-252	S. DAKOTA, C-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
99°31.6W	44°38.4N	20/ 9/73	21°00'44	88-311	S.D., C-100
99°00.6W	44°26.9N	20/ 9/73	21°00'51	88-312	S.D., C-100
99°51.1W	47°49.3N	5/ 8/73	14°58'54	22-164	N.D., C-99
99°46.8W	47°49.1N	5/ 8/73	14°58'54	83-134	N. DAKOTA, C-99
99°43.8W	48°35.1N	11/ 9/73	21°04'59	34-346	NORTH DAKOTA-MANITOBA, INTERNATIONAL PEACE GARDEN, SOURIS RIV.
99°21.7W	49°12.6N	19/ 9/73	20°06'53	46-213	N. DAKOTA, MANITOBA, BRANDON, ASSINIBOINE RIV., TURTLE MT.
99°49.1W	49°16.6N	19/ 9/73	20°06'48	88-236	N.D., MANITOBA, TURTLE MT., SOURIS R.
99°13.8W	49°12.1N	15/ 9/73	20°06'55	88-237	N.D., MANITOBA, SOURIS R., ASSINIBOINE R.
98°17.1W	18°24.1N	17/ 9/73	15°00'42	46-082	MEXICO, PUEBLA, MORELOS, TLAXCALA, ATLIXCO, CAMACHO RES. C-30
98°31.3W	18°08.8N	17/ 9/73	15°00'36	88-133	MEXICO (PUEBLA-GUERRERO), RIO NEXAPA, C-30
98°01.6W	26°58.4N	12/ 8/73	14°49'20	28-206	TEXAS, MEXICO, RIO GRANDE, PADRE IS. C-70
98°58.6W	27°52.5N	12/ 8/73	14°49'00	28-205	TEXAS, MEXICO, RIO GRANDE, NUEVO LAREDO-LAREDO, C-70
98°12.2W	27°09.3N	12/ 8/73	14°49'16	85-024	TEXAS, KING RANCH, FALFURIAS, C-80
98°06.9W	28°54.3N	10/ 9/73	18°31'40	40-027	TEXAS, COASTAL PLAIN, C-95
98°54.7W	28°12.3N	10/ 9/73	18°31'24	85-316	TEXAS, C-95
98°35.2W	28°29.9N	10/ 9/73	18°31'30	85-317	TEXAS, C-98
98°15.1W	28°48.0N	10/ 9/73	18°31'37	85-318	TEXAS, C-98
98°14.8W	30°57.2N	3/ 8/73	18°05'56	22-014	TEXAS, AUSTIN, COLORADO R., LAKES TRAVIS, LBJ, AND BUCHANAN, C-10
98°42.2W	31°32.7N	8/ 8/73	16°05'21	* 22-345	TEXAS, BROWNWOOD, COLEMAN, BRADY, C-55
98°11.2W	31°07.1N	8/ 8/73	16°05'31	* 22-346	TEXAS, COLORADO R., KILEEN, C-60
98°28.7W	32°37.8N	9/ 9/73	19°15'59	85-287	TEXAS, BRAZOS R., POSSUM KINGDOM RES., C-70
98°30.6W	34°48.8N	4/ 8/73	17°21'41	22-114	OKLAHOMA, TEXAS, WICHITA FALLS, RED R., LAWTON, C-70
98°40.2W	34°56.2N	4/ 8/73	17°21'38	83-047	OKLA., LAWTON, C-93
98°30.6W	35°45.8N	13/ 9/73	17°58'50	40-175	OKLAHOMA, CANADIAN RIV. C-80
98°02.0W	35°44.1N	18/ 9/73	15°57'25	46-186	OKLAHOMA, C-98
98°54.0W	35°30.0N	13/ 9/73	17°58'43	87-011	OKLA., CANADIAN R., C-75
98°31.3W	35°46.0N	13/ 9/73	17°58'50	87-012	OKLA., CANADIAN R., C-90
98°22.7W	35°30.8N	18/ 9/73	15°57'19	88-210	OKLAHOMA, C-100
98°07.9W	36°01.5N	13/ 9/73	17°58'57	87-013	OKLA., CANTON RES., C-85
98°13.5W	37°47.6N	5/ 8/73	16°37'44	22-226	KANSAS WICHITA, HUTCHINSON, CHERRY RES., ARKANSAS R.
98°13.4W	37°55.5N	5/ 8/73	16°37'41	83-200	KANSAS, HUTCHINSON, PRATT, ARKANSAS R., CHENEY RES.
98°25.4W	38°15.8N	5/ 8/73	16°37'34	22-225	KANSAS, ARKANSAS R., GREAT BEND, HUTCHINSON
98°52.0W	38°48.9N	7/ 9/73	20°44'20	34-287	KANSAS C-100
98°25.4W	38°15.8N	5/ 8/73	16°37'33	83-199	KANSAS, CHEYENNE BOTTOMS, GREAT BEND, ARKANSAS R.
98°45.5W	38°55.3N	7/ 9/73	20°44'22	86-080	KANSAS, C-100
98°13.3W	39°10.8N	7/ 9/73	20°44'30	34-288	KANSAS C-100
98°19.4W	39°10.0N	7/ 9/73	20°44'29	86-081	KANSAS, C-100
98°34.9W	41°33.2N	6/ 9/73	21°28'29	86-030	NEBRASKA, LOUP R. SYSTEM, ST. PAUL, LOUP CITY
98°21.4W	41°11.9N	16/ 9/73	17°25'42	88-122	NEBRASKA, C-100
98°50.7W	43°23.3N	10/ 9/73	20°11'06	85-397	NEB., S. D., FT. RANDALL DAM + RES., MISSOURI R., C-25
98°21.4W	43°35.3N	10/ 9/73	20°11'12	85-398	S. D., FT. RANDALL RES. + DAM, JAMES R., C-20
98°14.8W	43°25.9N	15/ 9/73	18°05'46	87-130	S.D., MITCHELL, C-65
98°37.6W	44°17.3N	20/ 9/73	21°00'56	46-253	S. DAKOTA, C-100
98°30.6W	44°15.5N	20/ 9/73	21°00'57	88-313	S.D., C-100
98°00.3W	44°04.0N	20/ 9/73	21°01'04	88-314	S.D., C-100
98°31.3W	46°20.3N	9/ 8/73	13°42'21	28-005	NORTH DAKOTA, SOUTH DAKOTA, JAMES RIV., JAMESTOWN, SHEYENNE RIV. C-40
98°59.0W	47°37.4N	5/ 8/73	14°59'04	22-165	N.D., C-98
98°07.6W	47°27.3N	5/ 8/73	14°59'14	22-166	N.D., C-96
98°39.9W	47°34.1N	5/ 8/73	14°59'07	83-135	N. DAKOTA, C-98
98°42.0W	47°48.0N	12/ 9/73	20°21'18	86-343	N.D., DEVIL'S LAKE, SHEYENNE R.
98°49.7W	48°44.5N	11/ 9/73	21°05'09	34-347	NORTH DAKOTA-MANITOBA, PEMBINA MTS.
98°40.9W	48°46.6N	11/ 9/73	21°05'11	86-237	N.D., MANITOBA, PEMBINA R., PEMBINA MTS.
98°21.1W	49°03.6N	19/ 9/73	20°07'03	46-214	N. DAKOTA, MANITOBA, SOURIS RIV., ASSINIBOINE RIV.
98°34.3W	49°06.4N	19/ 9/73	20°07'01	88-238	N.D., MANITOBA, PEMBINA R., PEMBINA MTS.
97°55.7W	18°49.5N	17/ 9/73	15°00'50	88-134	MEXICO, PUEBLA MILANCHE VOLCANO, VALSE OUILLO RES.
97°26.7W	19°21.6N	17/ 9/73	15°01'02	46-083	MEXICO, PUEBLA, TLAXCALA, CERRO MANILNCH C-70
97°19.8W	19°30.0N	17/ 9/73	15°01'04	88-135	MEXICO, RAFAEL LARA GRAJALES, ORIZABA PEAK, C-65
97°33.3W	21°42.0N	11/ 8/73	15°33'59	28-069	MEXICO, TAMAULIPAS STATE, C-95
97°07.2W	21°14.0N	11/ 8/73	15°34'09	28-070	MEXICO, VERACRUZ STATE, C-95
97°13.8W	21°22.3N	11/ 8/73	15°34'06	84-024	MEXICO, VERACRUZ STATE, RIO TUXPAN, C-95
97°59.3W	22°10.1N	11/ 8/73	15°33'49	28-068	CLOUDS OVER MEXICO C-98
97°42.5W	23°44.2N	21/ 9/73	13°44'00	46-268	MEXICO, TAMAULIPAS COAST, C-50
97°20.1W	24°05.7N	21/ 9/73	13°44'08	87-242	GULF OF MEXICO, C-15
97°01.6W	24°24.5N	21/ 9/73	13°44'15	87-243	GULF OF MEXICO, C-15

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
97°04.9W	26°04.6N	12/ 8/73	14°49'40	28-207	TEXAS, MEXICO, PADRE IS., BROWNSVILLE-MATAMOROS C-70
97°20.1W	26°19.9N	12/ 8/73	14°49'34	85-025	TEXAS, RIO GRANDE, BROWNSVILLE, PADRE I., LAGUNA MADRE, C-65
97°36.6W	28°55.3N	15/ 9/73	16°30'19	40-288	TEXAS, LOCKHART, LULING, BEEVILLE C-85
97°47.5W	28°46.4N	15/ 9/73	16°30'16	87-035	TEXAS, THREE RIVERS., C-92
97°06.9W	29°46.9N	10/ 9/73	18°32'00	40-028	TEXAS, COASTAL PLAIN, C-98
97°06.6W	29°21.5N	15/ 9/73	16°30'29	40-289	TEXAS, COLORADO RIV., LOCKHART, LA GRANGE C-60
97°56.0W	29°04.8N	10/ 9/73	18°31'44	85-319	TEXAS, C-100
97°35.9W	29°22.3N	10/ 9/73	18°31'50	85-320	TEXAS, C-100
97°16.1W	29°39.6N	10/ 9/73	18°31'57	85-321	TEXAS, C-99
97°04.3W	29°24.5N	15/ 9/73	16°30'30	87-036	TEXAS, CLOPADO P., LAGRANGE, SMITHVILLE, C-65
97°44.2W	30°31.5N	3/ 8/73	18°06'06	22-015	TEXAS, AUSTIN, COLORADO R., LAKE TRAVIS, KILLEEN, C-20
97°12.9W	30°05.2N	3/ 8/73	18°06'16	22-016	TEXAS, AUSTIN, COLORADO R., SOMERVILLE LAKE, C-30
97°39.9W	30°41.4N	8/ 8/73	16°05'40	* 22-347	TEXAS, AUSTIN, LAKE TRAVIS, C-70
97°09.2W	30°15.7N	8/ 8/73	16°05'50	* 22-348	TEXAS, AUSTIN, COLORADO R., C-70
97°14.2W	30°20.5N	8/ 8/73	16°05'49	83-314	TEXAS, AUSTIN, COLORADO R., C-50
97°57.7W	32°38.8N	14/ 9/73	17°14'40	40-238	TEXAS, FORT WORTH, BRAZOS RIV., BRIDGEPORT LAKE C-35
97°12.9W	33°53.2N	4/ 8/73	17°22'04	83-049	TEX., OKLA., RED R., GAINESVILLE, ARDMORE, LAKE TEXOMA, C-20
97°44.2W	33°11.9N	9/ 9/73	19°16'12	85-288	TEXAS, FORT WORTH, DENTON, C-50
97°23.1W	34°00.0N	4/ 8/73	17°22'01	22-115	TEXAS, OKLAHOMA, RED R., LAKE TEXOMA, C-40
97°56.4W	34°24.9N	4/ 8/73	17°21'51	83-048	OKLA., TEXAS, LAWTON, RED R., DUNCAN, C-60
97°55.7W	36°09.5N	13/ 9/73	17°59'00	40-176	OKLAHOMA, CIMARRON RIV., ENID UNDERCLOUDS C-80
97°19.1W	36°32.9N	13/ 9/73	17°59'10	40-177	OKLAHOMA, KANSAS, PONCA CITY C-65
97°26.4W	36°08.2N	18/ 9/73	15°57'35	46-187	OKLAHOMA, C-98
97°44.5W	36°17.3N	13/ 9/73	17°59'03	87-014	OKLA., ENID (3/4 CLOUD COVERED), SALT FORK, C-75
97°20.8W	36°32.6N	13/ 9/73	17°59'10	87-015	OKLA., KANSAS, PONCA CITY, ARKANSAS R., ARKANSAS CITY, C-50
97°32.0W	36°05.1N	18/ 9/73	15°57'33	88-211	OKLAHOMA, C-100
97°38.2W	37°29.0N	5/ 8/73	16°37'54	22-227	KANSAS, OKLAHOMA, WICHITA, PONCA CITY
97°00.7W	37°01.6N	5/ 8/73	16°38'04	22-228	KANSAS OKLAHOMA, PONCA CITY, ARKANSAS P.
97°58.0W	37°39.3N	5/ 8/73	16°37'48	83-201	KANSAS, WICHITA, HUTCHINSON, CHENEY RES.
97°38.2W	37°29.0N	5/ 8/73	16°37'55	83-202	KANSAS, OKLA., WICHITA, ARKANSAS R., WELLINGTON
97°05.9W	37°06.9N	5/ 8/73	16°38'02	83-203	KANSAS, OKLA., ARKANSAS R., PONCA CITY
97°34.6W	39°32.7N	7/ 9/73	20°44'40	34-289	KANSAS- NEBRASKA- MISSOURI C-100
97°53.4W	39°24.6N	7/ 9/73	20°44'36	86-082	KANSAS, C-100
97°27.0W	39°39.0N	7/ 9/73	20°44'42	86-083	KANSAS, C-100
97°00.7W	39°53.5N	7/ 9/73	20°44'49	86-084	KANSAS, C-100
97°47.8W	41°54.9N	6/ 9/73	21°28'40	34-257	NEBRASKA, LOUP RIV., PLATTE RIV., SAND HILLS, COLUMBUS
97°48.4W	41°27.3N	16/ 9/73	17°25'50	46-074	NEBRASKA, C-100
97°21.1W	41°41.4N	16/ 9/73	17°25'57	88-123	NEBRASKA, C-100
97°34.3W	42°01.7N	6/ 9/73	21°28'43	86-031	NEBRASKA, NORFOLK, ELKHORN R.
97°38.0W	43°51.0N	10/ 9/73	20°11'22	40-058	SOUTH DAKOTA-IOWA-MINNESOTA, SIOUX FALLS, PIPESTONE, N.M., C-20
97°06.9W	43°42.1N	20/ 9/73	21°01'16	46-255	MINNESOTA, S. DAKOTA C-100
97°51.7W	43°47.2N	10/ 9/73	20°11'19	85-399	S. D., MITCHELL, JAMES R., C-12
97°22.1W	43°59.0N	10/ 9/73	20°11'26	85-400	S. D., MITCHELL, JAMES R., MADISON, DE SMET, C-15
97°30.6W	43°52.3N	20/ 9/73	21°01'10	88-315	MINNESOTA, S.D., C-100
97°00.7W	43°40.2N	20/ 9/73	21°01'17	88-316	IOWA, MINN., S.D., C-100
97°52.1W	44°00.0N	20/ 9/73	21°01'06	46-254	S. DAKOTA, C-100
97°16.5W	47°14.3N	5/ 8/73	14°59'24	22-167	N.D., C-98
97°33.9W	47°19.6N	5/ 8/73	14°59'20	83-136	N. DAKOTA, C-100
97°55.7W	48°53.5N	11/ 9/73	21°05'19	34-348	NORTH DAKOTA-MANITOBA, PEMBINA MTS.
97°28.3W	48°55.3N	19/ 9/73	20°07'13	46-215	N. DAKOTA, MANITOBA, MINNESOTA, RED RIV. MORRIS
97°21.4W	48°59.3N	11/ 9/73	21°05'25	86-238	N.D., MINNESOTA, MANITOBA, RED R., MORRIS, GRAFTON
97°42.0W	48°00.0N	12/ 9/73	20°21'26	86-344	N.D., MINNESOTA, GRAND FORKS, RED R.
97°01.0W	48°08.0N	12/ 9/73	20°21'32	86-345	N.D., MINNESOTA, GRAND FORKS, RED R.
97°21.4W	48°54.8N	19/ 9/73	20°07'14	88-240	N.D., MINNESOTA, MANITOBA, RED R., PEMBINA
97°00.7W	49°01.8N	11/ 9/73	21°05'29	34-349	NORTH DAKOTA-MINNESOTA-MANITOBA, RED RIV., PEMBINA MTS.
97°55.4W	49°00.1N	19/ 9/73	20°07'08	88-239	N.D., MANITOBA, PEMBINA R., PEMBINA MTS.
96°41.2W	20°45.8N	11/ 8/73	15°34'19	28-071	MEXICO, VERACRUZ STATE, RIO TUXPAN, GULF COAST C-90
96°15.5W	20°17.5N	11/ 8/73	15°34'29	28-072	MEXICO, VERACRUZ STATE, RIO NAUTLA, GULF COAST, C-30
96°50.8W	20°34.6N	12/ 9/73	17°02'51	40-089	MEXICO, VERACRUZ STATE, POZA RICA C-10
96°35.6W	20°18.3N	17/ 9/73	15°01'22	46-084	MEXICO, GULF OF MEXICO C-90
96°42.2W	20°48.0N	11/ 8/73	15°34'18	84-025	MEXICO, VERA CRUZ STATE, RIO CAZONES, C-93
96°10.9W	20°13.4N	11/ 8/73	15°34'31	84-026	GULF OF MEXICO, C-90
96°43.5W	20°10.6N	17/ 9/73	15°01'18	88-136	MEXICO, COAST AT VERACRUZ, C-100
96°25.1W	21°02.8N	12/ 9/73	17°03'01	40-090	MEXICO, VERACRUZ STATE, RIO VINAZCO, GULF OF MEXICO C-10
96°26.1W	21°02.3N	12/ 9/73	17°03'01	86-277	GULF OF MEXICO, C-15
96°47.8W	24°39.2N	21/ 9/73	13°44'20	46-269	MEXICO, TAMAULIPAS, LAGUNA MADRE C-20
96°42.9W	24°43.2N	21/ 9/73	13°44'21	87-244	GULF OF MEXICO, C-15
96°08.6W	25°09.7N	12/ 8/73	14°50'00	28-208	GULF OF MEXICO, C-80
96°51.1W	25°52.0N	12/ 8/73	14°49'44	85-026	TEXAS, BROWNSVILLE SHIP CHANNEL, TAMAULIPAS, MATAMORES, C-80
96°11.2W	25°13.0N	12/ 8/73	14°45'55	85-027	GULF OF MEXICO, C-92
96°24.1W	25°01.9N	21/ 9/73	13°44'28	87-245	GULF OF MEXICO, C-15
96°05.3W	25°20.6N	21/ 9/73	13°44'35	87-246	GULF OF MEXICO, C-12
96°42.5W	25°39.1N	3/ 8/73	18°06'26	22-017	TEXAS, COLUMBUS, BRAZOS R., C-65

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SI90 A+B ROLL-FRAME	LOCATION AND COMMENTS
96°12.5W	29°13.1N	3/ 8/73	18°06'36	22-018	TEXAS, MATAGORDA BAY, ALVIN, WAHRTON, BAY CITY, C-60
96°40.2W	29°49.7N	8/ 8/73	16°06'00	* 22-349	TEXAS, COLUMBUS, COLORADO R., C-70
96°09.9W	29°23.1N	8/ 8/73	16°06'11	* 22-350	TEXAS, HOUSTON (WEST SIDE), BRAZOS R., ALVIN, C-60
96°35.9W	29°48.0N	15/ 9/73	16°30'39	40-290	TEXAS, N.W. HOUSTON, BRAZOS RIV., COLLEGE STATION, COLORADO RIV. C-30
96°35.6W	29°46.5N	8/ 8/73	16°06'02	83-316	TEXAS, BRAZOS R., COLORADO R., COLUMBUS, LA GRANGE, C-60
96°16.2W	29°29.6N	8/ 8/73	16°06'08	83-317	TEXAS, BRAZOS R., ROSENBERG, COLUMBUS, EAGLE LAKE, C-40
96°56.0W	29°56.9N	10/ 9/73	18°32'03	85-322	TEXAS, C-98
96°04.6W	30°39.6N	10/ 9/73	18°32'20	40-029	TEXAS, COLLEGE STATION, CROCKETT C-80
96°05.6W	30°14.1N	15/ 9/73	16°30'49	40-291	TEXAS, N.W. HOUSTON, LAKE CONROE, BRAZOS RIV., COLLEGE STATION
96°54.7W	30°03.7N	8/ 8/73	16°05'55	83-315	TEXAS, SCHMERVILLE RES., BASTROP, FLGIN, COLORADO R., C-50
96°35.6W	30°14.2N	10/ 9/73	18°32'10	85-323	TEXAS, C-95
96°15.5W	30°31.4N	10/ 9/73	18°32'17	85-324	TEXAS, C-85
96°00.0W	30°45.0N	10/ 9/73	18°32'23	85-325	TEXAS, INTERSTATE 45 NEAR MADISONVILLE, C-80
96°20.4W	30°02.2N	15/ 9/73	16°30'44	87-037	TEXAS, BRYAN, COLLEGE STATION, LAKE SOMERVILLE, BRAZOS R., C-10
96°17.2W	33°10.7N	4/ 8/73	17°22'21	22-116	TEXAS, DALLAS, LAKE TEXOMA, TAWAKONI LAKE, C-40
96°52.1W	33°28.8N	14/ 9/73	17°15'00	40-239	TEXAS, DALLAS, REGIONAL AIRPORT C-85
96°30.0W	33°21.4N	4/ 8/73	17°22'17	83-050	TEX., OKLA., LAKE TEXOMA, DALLAS, DENNISON, SHERMAN, C-40
96°58.7W	33°46.0N	9/ 9/73	19°16'26	85-289	TEXAS, OKLAHOMA, LAKE TEXOMA, RED R., C-50
96°12.5W	34°19.6N	9/ 9/73	19°16'40	85-290	OKLAHOMA, MCALLESTER, ATOKA, COALGATE, C-45
96°24.1W	36°38.5N	5/ 8/73	16°38'14	22-229	OKLAHOMA, KANSAS, TULSA, ARKANSAS R., DOLOGAH RES.
96°43.2W	36°56.2N	13/ 9/73	17°59'20	40-178	OKLAHOMA, KANSAS, PONCA CITY, ARKANSAS RIV. C-50
96°50.8W	36°31.6N	18/ 9/73	15°57'45	46-188	KANSAS, OKLAHOMA, BARTLESVILLE, PAWUSKA, ARKANSAS RIV. C-70
96°14.8W	36°54.8N	18/ 9/73	15°57'55	46-189	KANSAS, OKLAHOMA, BARTLESVILLE, INDEPENDENCE C-50
96°40.2W	36°50.7N	5/ 8/73	16°38'09	83-204	KANSAS, OKLA., ARKANSAS R., PONCA CITY, SEDAN
96°15.5W	36°31.1N	5/ 8/73	16°38'16	83-205	KANSAS, KANSAS, TULSA, ARKANSAS R., BARTLESVILLE
96°57.0W	36°47.9N	13/ 9/73	17°59'16	87-016	OKLA., KANSAS, PONCA CITY, ARKANSAS, P., C-35
96°40.6W	36°39.0N	18/ 9/73	15°57'47	88-212	OKLAHOMA, KANSAS, BARTLESVILLE, PAWUSKA, CEDAR VALE, C-50
96°06.6W	37°19.2N	13/ 9/73	17°59'30	40-179	OKLAHOMA, KANSAS, OSAGE RESERVATION, C-60
96°33.0W	37°03.4N	13/ 9/73	17°59'23	87-017	OKLA., KANSAS, ARKANSAS R., CEDAR VALF, C-35
96°08.9W	37°18.6N	13/ 9/73	17°59'30	87-018	KANSAS, COFFEYVILLE, INDEPENDENCE, C-60
96°55.9W	39°44.5N	7/ 9/73	20°44'50	34-290	MISSOURI- IOWA- NEBRASKA C-100
96°17.2W	40°16.4N	7/ 9/73	20°45'00	34-291	MISSOURI-IOWA C-100
96°34.3W	40°07.7N	7/ 9/73	20°44'56	86-085	NEBRASKA, KANSAS, C-100
96°07.3W	40°21.8N	7/ 9/73	20°45'03	86-086	NEBRASKA, KANSAS, C-100
96°22.1W	42°33.8N	6/ 9/73	21°29'00	34-258	NEBRASKA-SOUTH DAKOTA-IOWA, SIOUX CITY, MISSOURI RIV., YANKTON
96°24.4W	42°07.0N	16/ 9/73	17°26'10	46-075	NEBRASKA, C-100
96°33.0W	42°29.7N	6/ 9/73	21°28'56	86-032	NEBRASKA, S.D., IOWA, SIOUX CITY, MISSOURI R.
96°20.1W	42°09.8N	16/ 9/73	17°26'11	88-124	NEBRASKA, C-100
96°23.4W	43°25.4N	20/ 9/73	21°01'26	46-256	MINNESOTA, S. DAKOTA C-100
96°32.0W	43°29.2N	20/ 9/73	21°01'24	88-317	IOWA, MINN., S.D., C-100
96°03.3W	43°18.0N	20/ 9/73	21°01'31	88-318	IOWA, MINN., C-100
96°03.0W	44°27.0N	10/ 9/73	20°11'42	40-059	SOUTH DAKOTA, MINNESOTA, MINNESOTA RIV., GRANITE FALLS C-20
96°52.1W	44°10.6N	10/ 9/73	20°11'32	85-401	S. D., MADISON, BROOKINGS, DE SNET, C-20
96°21.8W	44°21.9N	10/ 9/73	20°11'39	85-402	S. D., MINNESOTA, BROOKINGS, CANBY, C-35
96°53.7W	45°50.8N	9/ 8/73	13°42'41	28-006	NORTH DAKOTA, SOUTH DAKOTA, MINN., BIG STONE LAKE, LAKE TRAVERSE C-40
96°25.7W	47°01.6N	5/ 8/73	14°59'34	22-168	N.D., MINNESOTA, C-99
96°28.4W	47°02.1N	5/ 8/73	14°59'33	83-137	N. DAKOTA, MINNESOTA, C-100
96°05.0W	49°10.0N	11/ 9/73	21°05'39	34-350	MINNESOTA-MANITOBA, LAKE OF THE WOODS, THIEF LAKE C-15
96°01.3W	49°11.0N	11/ 9/73	21°05'40	86-239	MINNESOTA, MANITOBA, LAKE OF THE WOODS, KENORA, C-25
95°50.1W	19°49.3N	11/ 8/73	15°34'39	28-073	MEXICO, VERACRUZ STATE, VERACRUZ, GULF COAST, C-75
95°24.8W	19°20.8N	11/ 8/73	15°34'49	28-074	MEXICO, VERACRUZ STATE, VERACRUZ, ALVARADO, GULF COAST C-75
95°59.0W	21°31.0N	12/ 9/73	17°03'11	40-091	GULF OF MEXICO, C-15
95°32.7W	21°59.0N	12/ 9/73	17°03'21	40-092	GULF OF MEXICO, C-25
95°43.9W	21°15.2N	17/ 9/73	15°01'42	46-085	GULF OF MEXICO C-85
95°49.1W	21°42.5N	12/ 9/73	17°03'15	86-278	GULF OF MEXICO, C-18
95°06.3W	22°27.0N	12/ 9/73	17°03'31	40-093	GULF OF MEXICO, C-20
95°11.6W	22°22.4N	12/ 9/73	17°03'29	86-279	GULF OF MEXICO, C-15
95°13.5W	24°14.8N	12/ 8/73	14°50'20	28-209	GULF OF MEXICO, C-75
95°52.4W	25°34.1N	21/ 9/73	13°44'40	46-270	GULF OF MEXICO, C-15
95°46.2W	25°39.2N	21/ 9/73	13°44'42	87-247	GULF OF MEXICO, C-12
95°27.1W	25°57.8N	21/ 9/73	13°44'45	87-248	GULF OF MEXICO, C-12
95°07.9W	26°16.3N	21/ 9/73	13°44'55	87-249	GULF OF MEXICO, C-15
95°42.9W	28°46.7N	3/ 8/73	18°06'46	22-019	TEXAS, BRAZOSPORT AREA, WEST BAY, ALVIN, MATAGORDA BAY, C-70
95°12.9W	28°20.0N	3/ 8/73	18°06'56	22-020	TEXAS, GULF OF MEXICO, WEST BAY, SAN LUIS PASS, FREEPORT, C-80
95°39.9W	28°56.9N	8/ 8/73	16°06'21	* 22-351	TEXAS, HOUSTON (WEST SIDE), ALVIN, SAN LUIS PASS, C-60
95°10.2W	28°30.6N	8/ 8/73	16°06'31	* 22-352	TEXAS, GALVESTON I., WEST BAY, ALVIN, C-80
95°37.3W	28°55.5N	8/ 8/73	16°06'21	83-319	TEXAS, MATAGORDA BAY, MATAGORDA, COLO. R., BRAZOS R., LAKE JACKSON
95°17.8W	28°38.1N	8/ 8/73	16°06'28	83-320	TEXAS, MATAGORDA, COLORADO R., BRAZOS R., LAKE JACKSON, C-50
95°56.7W	29°12.6N	8/ 8/73	16°06'15	83-318	TEXAS, BRAZOS R., LAKE JACKSON, MATAGORDA, ROSENBERG, C-40
95°35.0W	30°39.9N	15/ 9/73	16°30'59	40-292	TEXAS, NC. SIDE HOUSTON, LAKES CONROE + LIVINGSTON, HUNTSVILLE C-40
95°36.0W	30°39.6N	15/ 9/73	16°30'59	87-038	TEXAS, LAKE CONROE, LAKE LIVINGSTON, CONROE, HUNTSVILLE, C-30

LONGITUDE DDD°MM.M	LATITUDE DDD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
95°02.7W	31°30.5N	10/ 9/73	18°32'40	40-030	TEXAS, HENDERSON, KILGORE C-75
95°03.3W	31°06.0N	15/ 9/73	16°31'09	40-293	TEXAS, LAKES LIVINGSTON + S. RAYBURN C-70
95°34.3W	31°05.5N	10/ 9/73	18°32'30	85-326	TEXAS, TRINITY R., INTERSTATE 45, C-80
95°13.5W	31°22.6N	10/ 9/73	18°32'36	85-327	TEXAS, JACKSONVILLE, C-80
95°12.2W	32°20.6N	4/ 8/73	17°22'41	22-117	TEXAS, CEDAR CREEK RES., TYLER, C-60
95°48.2W	32°49.3N	4/ 8/73	17°22'30	83-051	TEX., TAWAKONI RES., TERRELL, SULPHUR SPRINGS, C-60
95°06.3W	32°16.8N	4/ 8/73	17°22'43	83-052	TEX., TYLER, LONGVIEW, KILGORE, C-80
95°21.5W	34°55.4N	9/ 9/73	19°16'55	40-005	OKLAHOMA, CANADIAN RIV., EUFAULA RES., C-60
95°44.9W	34°18.1N	14/ 9/73	17°15'20	40-240	TEXAS, OKLAHOMA C-100
95°25.7W	34°53.1N	9/ 9/73	19°16'54	85-291	OKLAHOMA, EUFAULA LAKE, ARKANSAS R., KERR RES., C-40
95°13.2W	35°52.2N	5/ 8/73	16°38'34	22-231	OKLAHOMA, ARKANSAS, P.S. KERR RES., CANADIAN R., C-15
95°48.5W	36°15.6N	5/ 8/73	16°38'24	22-230	OKLAHOMA, TULSA, MUSKOGEE, FT. GIBSON RES.
95°49.5W	36°17.3N	5/ 8/73	16°38'23	83-206	KANSAS, TULSA, BARTLESVILLE, ARKANSAS R.
95°24.4W	36°00.6N	5/ 8/73	16°38'30	83-207	KANSAS, TULSA, ARKANSAS R., MUSKOGEE, FT. GIBSON RES.
95°38.6W	37°17.9N	18/ 9/73	15°58'05	46-190	KANSAS, OKLAHOMA, BARTLESVILLE, COFFEYVILLE C-45
95°01.3W	37°41.0N	18/ 9/73	15°58'15	46-191	MISSOURI, KANSAS, NEVADA, IOLA, CHANUTE C-65
95°44.5W	37°33.7N	13/ 9/73	17°59'36	87-019	KANSAS, COFFEYVILLE, PARSONA, CHANUTE, C-75
95°48.2W	37°12.5N	18/ 9/73	15°58'02	88-213	KANSAS OKLAHOMA, BARTLESVILLE, COFFEYVILLE, INDEPENDENCE, C-20
95°37.3W	40°37.0N	7/ 5/73	20°45'10	34-292	MISSOURI-IOWA C-100
95°40.2W	40°36.3N	7/ 9/73	20°45'09	86-087	NEBRASKA, KANSAS, C-100
95°13.2W	40°49.7N	7/ 9/73	20°45'16	86-088	IOWA, MISSOURI, NEBRASKA, C-100
95°17.8W	42°37.6N	16/ 9/73	17°26'26	88-125	NEBRASKA, IOWA, C-100
95°04.3W	42°51.8N	20/ 9/73	21°01'43	88-320	IOWA, STORM LAKE, C-85
95°37.6W	43°05.6N	20/ 9/73	21°01'36	46-257	IOWA, MINNESOTA, S. DAKOTA, STORM LAKE C-85
95°33.3W	43°04.2N	20/ 9/73	21°01'37	88-319	IOWA, MINN., STORM LAKE, C-90
95°51.4W	44°33.5N	10/ 5/73	20°11'45	85-403	S. D., MINNESOTA, MINNESOTA R., GRANITE FALLS, C-25
95°18.5W	45°20.4N	9/ 8/73	13°43'01	28-007	SOUTH DAKOTA, MINNESOTA, BIG STONE LAKE, MINNESOTA RIV. C-30
95°35.6W	46°48.3N	5/ 8/73	14°59'44	22-169	MINNESOTA, C-98
95°23.4W	46°45.5N	5/ 8/73	14°59'46	83-138	N. DAKOTA, MINNESOTA, C-100
95°28.0W	47°26.8N	13/ 5/73	19°38'10	40-216	MINNESOTA, CLOUDS, C-100
95°12.2W	48°31.3N	12/ 9/73	20°22'02	40-154	MINNESOTA, UPPER + LOWER RED LAKE, LAKE OF WOODS C-20
95°40.6W	48°37.2N	19/ 9/73	20°07'33	46-216	MINNESOTA, MANITOBA-ONTARIO, LAKE OF THE WOODS, UPPER RED LAKE
95°57.0W	48°40.7N	19/ 9/73	20°07'30	88-241	MINN., MANITOBA, LAKE OF THE WOODS, THIEF LAKE, ROSEAU
95°09.6W	49°17.6N	11/ 9/73	21°05'49	34-351	MINNESOTA-MANITOBA-ONTARIO, LAKE OF THE WOODS, KENORA C-25
94°39.3W	22°55.4N	12/ 9/73	17°03'41	40-094	GULF OF MEXICO, C-15
94°51.5W	22°11.2N	17/ 9/73	15°02'02	46-086	GULF OF MEXICO C-30
94°19.8W	23°19.6N	12/ 8/73	14°50'40	28-210	GULF OF MEXICO, C-40
94°12.6W	23°23.1N	12/ 9/73	17°03'51	40-095	GULF OF MEXICO, C-10
94°33.7W	23°02.1N	12/ 9/73	17°03'43	86-280	GULF OF MEXICO, C-10
94°56.1W	26°28.5N	21/ 9/73	13°45'00	46-271	GULF OF MEXICO, C-25
94°48.5W	26°34.7N	21/ 5/73	13°45'02	87-250	GULF OF MEXICO, C-18
94°29.4W	26°53.0N	21/ 9/73	13°45'09	87-251	GULF OF MEXICO, C-15
94°14.9W	27°26.8N	3/ 8/73	18°07'16	22-021	GULF OF MEXICO, C-95
94°11.9W	27°37.3N	8/ 8/73	16°06'50	* 22-354	GULF OF MEXICO, C-80
94°20.8W	27°46.4N	8/ 8/73	16°06'47	83-323	GULF OF MEXICO, C-93
94°01.7W	27°28.9N	8/ 8/73	16°06'54	83-324	GULF OF MEXICO, C-93
94°09.6W	27°11.5N	21/ 9/73	13°45'16	87-252	GULF OF MEXICO, C-15
94°40.9W	28°04.0N	8/ 8/73	16°06'40	* 22-353	GULF OF MEXICO, C-80
94°58.7W	28°21.0N	8/ 8/73	16°06'34	83-321	GULF OF MEXICO, C-99
94°39.6W	28°03.7N	8/ 8/73	16°06'41	83-322	GULF OF MEXICO, C-98
94°08.3W	31°30.7N	4/ 8/73	17°23'01	22-118	TEXAS, LOUISIANA, S. RAYBURN RES., TOLEDO BEND LAKE, C-50
94°32.0W	31°31.5N	15/ 9/73	16°31'19	40-294	TEXAS, LAKES S. RAYBURN + TOLEDO BEND (NO CLOUDS OVER LAKES) C-70
94°00.4W	31°56.9N	15/ 9/73	16°31'29	40-295	TEXAS, LOUISIANA, S. RAYBURN + TOLEDO BEND LAKES, RED RIV. C-75
94°25.1W	31°44.0N	4/ 8/73	17°22'56	83-053	TEX., SAM RAYBURN RES., TOLEDO BEND RES., NACOGDOCHES, C-45
94°52.8W	31°39.4N	10/ 9/73	18°32'43	85-328	TEXAS, JACKSONVILLE, HENDERSON, RUSK, C-80
94°31.7W	31°56.2N	10/ 9/73	18°32'50	85-329	TEXAS, LOUISIANA, CARTHAGE, HENDERSON, SABINE P., C-65
94°51.1W	31°16.8N	15/ 9/73	16°31'13	87-039	TEXAS, SAM RAYBURN LAKE, LUFKIN, NACOGDOCHES, C-75
94°08.6W	31°51.1N	15/ 9/73	16°31'27	87-040	TEXAS, LA., TOLEDO BEND LAKE, RED R., MURVAUL LAKE, C-60
94°10.6W	32°13.0N	10/ 9/73	18°32'56	85-330	TEXAS, LOUISIANA, SHREVEPORT, MARSHALL, C-65
94°38.3W	35°27.2N	5/ 8/73	16°38'44	22-232	OKLAHOMA, ARKANSAS, FT. SMITH, ARKANSAS R., C-25
94°04.0W	35°02.9N	5/ 8/73	16°38'54	22-233	ARKANSAS, OKLAHOMA, FT. SMITH, DARDANELLE RES., C-60
94°19.5W	35°38.5N	9/ 9/73	19°17'13	40-006	OKLAHOMA, ARKANSAS, FORT SMITH C-65
94°36.6W	35°06.9N	14/ 5/73	17°15'40	40-241	OKLAHOMA, ARKANSAS C-100
94°59.4W	35°43.8N	5/ 8/73	16°38'37	83-208	KANSAS, ARKANSAS, MUSKOGEE, ARKANSAS R., BOSTON MTS., C-10
94°35.3W	35°25.4N	5/ 8/73	16°38'44	83-209	KANSAS, ARKANSAS, FORT SMITH, ARKANSAS R., BOSTON MTS., C-15
94°10.6W	35°08.4N	5/ 8/73	16°38'52	83-210	KANSAS, ARKANSAS, FORT SMITH, ARKANSAS R., QUACHITA MTS., C-20
94°38.3W	35°26.2N	9/ 9/73	19°17'07	85-292	OKLAHOMA, ARKANSAS, FORT SMITH, ARKANSAS R., KERR RES., C-45
94°55.1W	37°45.4N	18/ 9/73	15°58'16	88-214	MISSOURI, KANSAS, NEVADA, IOLA, PITTSBURG, C-40
94°24.1W	38°03.6N	18/ 9/73	15°58'25	46-192	MISSOURI, DEEP WATER, HOLDEN, ARCHIE C-65

LONGITUDE DDD°MM.H	LATITUDE DD°MM.H	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
94°01.4W	38°17.9N	18/ 9/73	15°58'31	88-215	MISSOURI, CLINTON, GRAND R., WARRENBURG, C-35
94°56.7W	40°57.3N	7/ 9/73	20°45'20	34-293	IOWA C-100
94°15.9W	41°17.5N	7/ 9/73	20°45'30	34-294	IOWA C-90
94°45.9W	41°03.5N	7/ 9/73	20°45'23	86-089	IOWA, MISSOURI, C-98
94°18.2W	41°17.0N	7/ 9/73	20°45'25	86-090	IOWA, C-90
94°58.1W	42°46.2N	16/ 9/73	17°26'30	46-076	NEBRASKA, IOWA, SO. DAKOTA, MINN. C-100
94°53.8W	42°46.5N	20/ 9/73	21°01'46	46-258	IOWA, MINNESOTA, STORM LAKE C-70
94°10.6W	42°27.6N	20/ 9/73	21°01'56	46-259	IOWA, FORT DODGE, CARROLL, ALGONA C-60
94°35.6W	42°39.3N	20/ 9/73	21°01'50	88-321	IOWA, FT. DODGE, STORM LAKE, C-75
94°07.3W	42°26.7N	20/ 9/73	21°01'57	88-322	IOWA, DES MOINES R., FT. DODGE, C-75
94°54.4W	43°11.7N	6/ 9/73	21°29'20	34-259	IOWA-MINNESOTA, DES MOINES RIV., WORTHINGTON, FAIRMONT
94°28.4W	43°23.4N	6/ 9/73	21°29'26	86-033	MINNESOTA, IOWA, FAIRMONT, ESTERVILLE, DES MOINES R.
94°31.0W	45°03.6N	9/ 8/73	13°43'11	28-008	MINNESOTA, MINNESOTA RIV., LE SUEUR, WILLMAR C-15
94°35.3W	45°00.2N	10/ 9/73	20°12'02	40-060	MINNESOTA, MINNESOTA RIV., MISSISSIPPI R., MINNEAPOLIS, ST. CLOUD C-10
94°45.9W	46°34.4N	5/ 8/73	14°59'54	22-170	MINNESOTA, LEECH LAKE, MISSISSIPPI P., C-8C
94°19.2W	46°25.4N	5/ 8/73	14°59'59	83-139	MINNESOTA, LOWER RED LAKE, C-70
94°36.0W	47°38.9N	13/ 9/73	19°38'20	40-217	MINNESOTA, GRAND RAPIDS C-90
94°17.8W	48°41.2N	12/ 9/73	20°22'12	40-155	MINNESOTA, ONTARIO, LAKE OF THE WOODS, RAINY LAKE C-30
94°38.9W	48°26.5N	19/ 9/73	20°07'45	88-242	MINN., ONTARIO, UPPER RED LAKE, LAKE OF THE WOODS, RAINY R.
94°14.2W	49°24.7N	11/ 9/73	21°05'59	34-352	MINNESOTA-ONTARIO, LAKE OF THE WOODS, KENORA C-40
94°40.9W	49°21.9N	11/ 9/73	21°05'54	86-240	MINNESOTA, MANITOBA, ONTARIO, LAKE OF THE WOODS, KENORA, C-25
93°26.4W	22°23.9N	12/ 8/73	14°51'00	28-211	GULF OF MEXICO, C-30
93°46.9W	23°49.4N	12/ 9/73	17°04'01	40-096	GULF OF MEXICO, C-12
93°58.1W	23°07.4N	17/ 9/73	15°02'22	46-087	GULF OF MEXICO C-20
93°55.4W	23°41.7N	12/ 9/73	17°03'57	86-281	GULF OF MEXICO
93°04.0W	24°02.6N	17/ 9/73	15°02'42	46-088	GULF OF MEXICO C-20
93°17.2W	26°32.7N	3/ 8/73	18°07'36	22-022	GULF OF MEXICO, C-50
93°14.2W	26°43.5N	8/ 8/73	16°07'11	* 22-356	GULF OF MEXICO, C-50
93°42.9W	27°10.3N	8/ 8/73	16°07'01	* 22-355	GULF OF MEXICO, C-60
93°58.7W	27°22.5N	21/ 9/73	13°45'20	46-272	GULF OF MEXICO, C-15
93°43.2W	27°11.6N	8/ 8/73	16°07'00	83-325	GULF OF MEXICO, C-95
93°49.8W	27°29.8N	21/ 9/73	13°45'23	87-253	GULF OF MEXICO, C-15
93°30.1W	27°48.1N	21/ 9/73	13°45'25	87-254	GULF OF MEXICO, C-12
93°10.9W	28°33.4N	16/ 9/73	15°47'16	46-009	GULF OF MEXICO, C-40
93°00.7W	28°15.6N	21/ 9/73	13°45'40	46-273	GULF OF MEXICO, C-20
93°10.3W	28°06.2N	21/ 9/73	13°45'36	87-255	GULF OF MEXICO, C-18
93°06.0W	30°39.0N	4/ 8/73	17°23'21	22-119	TEXAS, LOUISIANA, LAKE CHARLES, LEESVILLE, C-40
93°04.3W	30°38.1N	4/ 8/73	17°23'22	83-055	TEX., LA., SABINE R., LAKE CHARLES, DE RIDDER, C-35
93°44.6W	31°11.1N	4/ 8/73	17°23'09	83-054	TEX., LA., TOLEDO BEND RES., S. RAYBURN RES., JASPER, C-40
93°58.7W	32°21.8N	10/ 9/73	18°33'00	40-031	TEXAS, LOUISIANA, SHREVEPORT, RED RIV. C-75
93°28.1W	32°22.6N	15/ 9/73	16°31'39	40-296	LOUISIANA, RED RIV., NATCHATOCHES C-60
93°49.2W	32°29.9N	10/ 9/73	18°33'03	85-331	LOUISIANA, ARK., TEXAS., SHREVEPORT, RED R., C-75
93°27.7W	32°46.5N	10/ 9/73	18°33'09	85-332	LOUISIANA, ARK., SHREVEPORT, RED R., C-70
93°22.5W	32°27.7N	15/ 9/73	16°31'41	87-041	LA., RED R., SHREVEPORT, C-65
93°06.3W	33°03.0N	10/ 9/73	18°33'16	85-333	ARK., LA., EL DORADO, MAGNOLIA, MINDEN, C-60
93°30.1W	34°38.9N	5/ 8/73	16°39'04	22-234	ARKANSAS, LITTLE ROCK, ARKANSAS R., C-60
93°46.2W	34°51.2N	5/ 8/73	16°38'59	83-211	ARKANSAS, QUACHITA MTS., ARKANSAS R., C-70
93°22.1W	34°34.1N	5/ 8/73	16°39'06	83-212	ARKANSAS, PENTON, MALVERN, HOT SPRINGS, C-65
93°51.1W	35°57.7N	9/ 9/73	19°17'21	40-007	ARKANSAS, MISSOURI, BULL SHOALS LAKE C-70
93°26.4W	35°55.2N	14/ 9/73	17°16'00	40-242	ARKANSAS, MISSOURI C-100
93°50.5W	35°58.8N	9/ 9/73	19°17'21	85-293	ARKANSAS, MO., BEAVER RES., TABLE ROCK RES., BOSTON MTS., C-50
93°00.0W	36°32.0N	9/ 9/73	19°17'35	40-008	ARKANSAS, MISSOURI, BULL SHOALS LAKE C-60
93°01.7W	36°31.1N	9/ 9/73	19°17'35	85-294	MO., ARK., BULLSHOALS LAKE, C-60
93°46.5W	38°26.0N	18/ 9/73	15°58'35	46-193	MISSOURI, MISSOURI RIV., KNOB NOSTER, CARROLLTON C-50
93°06.7W	38°49.9N	18/ 9/73	15°58'45	88-216	MISSOURI, MISSOURI R., SEDALIA, MARSHALL, CARROLLTON, C-20
93°34.3W	41°37.6N	7/ 9/73	20°45'40	34-295	IOWA, IOWA CITY, IOWA RIV. C-80
93°50.5W	41°30.5N	7/ 9/73	20°45'36	86-091	IOWA, DES MOINES R., C-85
93°22.5W	41°43.9N	7/ 9/73	20°45'43	86-092	IOWA, DES MOINES R., C-80
93°28.1W	42°08.3N	20/ 9/73	21°02'06	46-260	IOWA, DES MOINES, AMES, WATERLOO, C-40
93°39.0W	42°13.9N	20/ 9/73	21°02'03	88-323	IOWA, DES MOINES R., BOONE, AMES, C-60
93°10.9W	42°01.0N	20/ 9/73	21°02'10	88-324	IOWA, MARSHALLTOWN, IOWA FALLS, C-30
93°25.8W	43°48.0N	6/ 9/73	21°29'40	34-260	IOWA-MINNESOTA, BLUE EARTH, ALBERT LEA, ROCHESTER
93°30.7W	43°22.8N	16/ 9/73	17°26'50	46-077	IOWA, MINN. C-100
93°24.1W	43°49.3N	6/ 9/73	21°29'40	86-034	MINNESOTA, IOWA, ALBERT LEA, BLUE EARTH
93°51.1W	43°14.9N	16/ 9/73	17°26'45	88-126	IOWA, C-100
93°44.6W	44°47.2N	5/ 8/73	13°43'21	28-009	MINNESOTA, WISCONSIN, MINNEAPOLIS-ST. PAUL, MISSISSIPPI RIV.

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
93°56.4W	46°18.3N	5/ 8/73	15°00'04	22-171	MINNESOTA, MILLE LACS, BRAINERD, C-50
93°07.6W	46°03.8N	5/ 8/73	15°00'14	22-172	MINNESOTA, WISCONSIN, MILLE LACS, SANDSTONE, C-20
93°42.3W	47°50.6N	13/ 9/73	19°38'30	40-218	MINNESOTA, MESABI IRON MINES, HIRBBING C-80
93°23.5W	48°50.2N	12/ 9/73	20°22'22	40-156	MINNESOTA, ONTARIO, RAINY LAKE
93°53.5W	48°17.1N	19/ 9/73	20°07'53	46-217	MINNESOTA, ONTARIO, RAINY RIV., UPPER-LOWER RED LAKE
93°22.5W	48°11.5N	19/ 9/73	20°07'59	88-243	MINN., ONTARIO, INTERNATIONAL FALLS, RAINY R., RAINY LAKE
93°16.5W	49°31.6N	11/ 5/73	21°06'10	34-353	ONTARIO, DRYDEN, WABIGOOD LAKE C-50
93°19.8W	49°31.8N	11/ 5/73	21°06'09	86-241	ONTARIO, NESTOR FALLS, SIOUX NARROW, DRYDEN, C-60
92°25.8W	15°53.5N	11/ 8/73	15°36'01	28-075	MEXICO, GUATEMALA, RIO GRISJALVA, C-70
92°02.1W	15°25.3N	11/ 8/73	15°36'11	28-076	GUATEMALA, MEXICO, QUEZALTENANGO, HUEHUETENANGO, EL TAPON C-50
92°08.3W	15°33.7N	11/ 8/73	15°36'08	84-027	GUATEMALA-MEXICO, MONTOZINTIA DE MENDOZA, C-40
92°34.0W	21°27.9N	12/ 8/73	14°51'2C	28-212	GULF OF MEXICO, C-20
92°50.8W	24°46.0N	12/ 5/73	17°04'21	40-097	GULF OF MEXICO, C-15
92°09.0W	24°58.1N	17/ 5/73	15°03'02	46-089	GULF OF MEXICO C-15
92°21.2W	25°38.7N	3/ 8/73	18°07'56	22-023	GULF OF MEXICO, C-60, SEA STATE
92°17.9W	25°49.4N	8/ 8/73	21°07'30	* 22-357	GULF OF MEXICO, C-15
92°50.2W	28°24.3N	21/ 5/73	13°45'43	87-256	GULF OF MEXICO, C-15
92°30.1W	28°42.3N	21/ 5/73	13°45'50	87-257	GULF OF MEXICO, C-15
92°05.4W	29°46.9N	4/ 8/73	17°23'41	22-120	LOUISIANA, LAFAYETTE, VERMILLION BAY, ATCHAFALAYA FLOODWAY, C-15
92°11.0W	29°26.3N	16/ 9/73	15°47'36	46-010	LOUISIANA, LAFAYETTE, NEW IBERIA, AVERY IS. C-40
92°01.7W	29°08.5N	21/ 9/73	13°46'00	46-274	LOUISIANA, ATCHAFALAYA BAY, MARSH IS., C-15
92°09.6W	29°00.4N	21/ 9/73	13°45'57	87-258	LA., VERMILLION BAY, MARSH I., C-10
92°36.7W	29°04.8N	16/ 9/73	15°47'28	88-038	GULF OF MEXICO, C-65
92°24.8W	30°04.5N	4/ 8/73	17°23'34	83-056	LA., GRAND LAKE, WHITE LAKE, LAFAYETTE, AVERY I.
92°55.8W	32°47.7N	15/ 5/73	16°31'49	40-297	LOUISIANA, ARKANSAS, MONROE, OUICHTA RIV. C-80
92°22.5W	33°49.9N	5/ 8/73	16°39'24	22-235	ARKANSAS, LITTLE ROCK, PINE BLUFF, ARKANSAS R., C-30
92°53.5W	33°11.9N	10/ 9/73	18°33'20	40-032	LOUISIANA-ARKANSAS, EL DORADO, OUACHITA RIV. C-75
92°23.2W	33°12.5N	15/ 9/73	16°31'59	40-298	LOUISIANA, ARKANSAS, OUICHTA RIV. C-80
92°32.7W	33°58.3N	5/ 8/73	16°13'20	83-213	ARKANSAS, PINE BLUFF, ARKANSAS R., FORDYCE, C-25
92°44.6W	33°19.5N	10/ 9/73	18°33'23	85-334	ARK., LA., EL DORADO, CAMDEN, OUICHTA R., C-55
92°22.5W	33°35.9N	10/ 9/73	18°33'25	85-335	ARK., CAMDEN, OUICHTA R., C-50
92°00.7W	33°52.3N	10/ 9/73	18°33'36	85-336	ARK., ARKANSAS R., PINE BLUFF, MONTECELLO, C-60
92°35.7W	33°04.0N	15/ 9/73	16°31'55	87-042	LA., ARK., LAKE D'ARBONNE, EL DORADO, C-60
92°15.2W	36°41.8N	14/ 5/73	17°16'20	40-243	ARKANSAS, MISSOURI C-99
92°29.7W	39°10.3N	18/ 9/73	15°58'55	46-194	MISSOURI, MISSOURI, RIV., COLUMBIA, MOBERLY, JEFFERSON CITY C-30
92°11.0W	39°21.5N	18/ 9/73	15°58'59	88-217	MISSOURI, COLUMBIA, MEXICO, MOREPLY, C-20
92°52.5W	41°57.4N	7/ 9/73	20°45'50	34-296	IOWA, IOWA CITY, IOWA RIV. C-80
92°45.9W	41°48.7N	20/ 9/73	21°02'16	46-261	IOWA, CEDAR RAPIDS, DES MOINES, WATELON C-25
92°04.4W	41°28.7N	20/ 9/73	21°02'26	46-262	IOWA, IOWA CITY, IOWA RIV., CEDAR RAPIDS C-15
92°54.1W	41°57.2N	7/ 9/73	20°45'49	86-093	IOWA, GRINNELL, C-85
92°42.9W	41°48.0N	20/ 9/73	21°02'16	88-325	IOWA, GRINNELL, NEWTON, MARSHALLTOWN, C-15
92°15.6W	41°34.8N	20/ 9/73	21°02'23	88-326	IOWA, IOWA CITY, GRINNELL, IOWA R., OSKALOOSA
92°25.8W	42°10.8N	7/ 5/73	20°45'56	86-094	IOWA, CEDAR RAPIDS, C-80
92°01.1W	43°58.7N	16/ 5/73	17°27'10	46-078	IOWA, MINN. C-100
92°49.5W	43°40.2N	16/ 5/73	17°26'59	88-127	IOWA, C-100
92°58.4W	44°30.3N	9/ 8/73	13°43'31	28-010	MINNESOTA, WISCONSIN, MINNEAPOLIS-ST. PAUL, ST. CROIX RIV.
92°12.6W	44°13.0N	9/ 8/73	13°43'41	28-011	MINNESOTA, WISCONSIN, MISSISSIPPI RIV., RED WING, WIAONA C-20
92°18.9W	44°14.5N	6/ 8/73	21°25'55	86-035	MINNESOTA, WISCONSIN, ROCHESTER, MISSISSIPPI R., RED WING, C-15
92°19.2W	45°48.8N	5/ 8/73	15°00'24	22-173	MINNESOTA, WISCONSIN, ST. CROIX R., RICE LAKE, C-11
92°07.0W	47°55.0N	19/ 9/73	20°08'13	46-218	MINNESOTA, ONTARIO, MESABI RANGE IRON MINES, RAINY LAKE
92°49.8W	48°01.9N	13/ 9/73	19°38'40	40-219	MINNESOTA, MESABI IRON MINES, HIRBBING, VIRGINIA C-65
92°20.2W	49°37.4N	11/ 9/73	21°08'20	34-354	ONTARIO, DRYDEN, WABIGOOD LAKE, SIOUX LOOKOUT C-60
91°38.3W	14°56.6N	11/ 8/73	15°36'21	28-077	GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, RETALHULEY C-50
91°14.3W	14°27.3N	11/ 8/73	15°36'31	28-078	GUATEMALA, SAN JOSE, GUATEMALA CITY, LAGO ATITLAN, TIQUISATI C-25
91°37.3W	14°56.5N	11/ 8/73	15°36'21	84-029	GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, MAZATENANGO, C-35
91°21.5W	14°37.4N	11/ 8/73	15°36'28	84-030	GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, ANTIGUN, C-40
91°05.0W	14°17.1N	11/ 8/73	15°36'34	84-031	GUATEMALA, LAGO ATITLAN, ESCUINTLA, SAN JOSE, TIQUISATI, C-40
91°51.8W	15°13.8N	11/ 8/73	15°36'15	84-028	GUATEMALA, RIO SELEGUA, HUEHUETENANGO, EL TAPON, C-50
91°42.3W	20°31.7N	12/ 8/73	14°51'40	28-213	GULF OF MEXICO, C-25
91°25.5W	24°43.6N	3/ 8/73	18°08'16	22-024	GULF OF MEXICO, C-30 BOAT WAKES, SEA STATE
91°22.2W	24°54.9N	8/ 8/73	16°07'50	* 22-358	GULF OF MEXICO, C-15
91°54.8W	25°41.2N	12/ 9/73	17°04'41	40-098	GULF OF MEXICO, C-15
91°13.3W	25°52.5N	17/ 9/73	15°03'22	46-090	GULF OF MEXICO C-10
91°04.4W	28°53.5N	4/ 8/73	17°24'02	22-121	LOUISIANA, GULF OF MEXICO, C-90
91°07.0W	28°56.8N	4/ 8/73	17°24'00	83-058	GULF OF MEXICO, C-99

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
91°31.4W	29°34.7N	21/ 9/73	13°46'10	46-275	LOUISIANA, ATCHAFALAYA BAY, MISSISSIPPI R., NEW IBERIA, MORGAN CITY
91°45.6W	29°30.7N	4/ 8/73	17°23'47	83-057	LA., VERMILLION BAY, NEW IBERIA, BAYOU TECHE, C-70
91°49.2W	29°18.4N	21/ 9/73	13°46'03	87-259	LA., VERMILLION BAY, MARSH I., TECHE
91°28.8W	29°36.2N	21/ 9/73	13°46'10	87-260	LA., ATCHAFALAYA BAY, BAYOU TECH, MORGAN CITY, BALDWIN
91°08.0W	29°54.0N	21/ 9/73	13°46'17	87-261	LA., NEW IBERIA, MORGAN CITY, BATON ROUGE, MISSISSIPPI R.
91°53.8W	29°42.1N	16/ 9/73	15°47'42	88-039	LOUISIANA, LAFAYETTE, ATCHAFALAYA R., NEW IBERIA, MORGAN CITY, C-40
91°10.0W	30°18.8N	16/ 9/73	15°47'56	46-011	LOUISIANA, MISSISSIPPI RIV. ATCHAFALAYA FLOODWAY, BATON ROUGE C-20
91°00.8W	30°01.2N	21/ 9/73	13°46'20	46-276	LOUISIANA, MISSISSIPPI R., NEW ORLEANS, BATON ROUGE
91°10.3W	30°19.2N	16/ 9/73	15°47'56	88-040	LOUISIANA, MISSISSIPPI R., BATON ROUGE, ATCHAFALAYA R., C-15
91°16.6W	33°00.2N	5/ 8/73	16°39'44	22-236	ARKANSAS, MISSISSIPPI, MISSISSIPPI R., VICKSBURG, C-30
91°49.9W	33°37.7N	15/ 9/73	16°32'09	40-299	ARKANSAS, PINE BLUFF, ARKANSAS RIV. C-80
91°45.6W	33°23.1N	5/ 8/73	16°39'35	83-214	ARK., MISS., LA., MISSISSIPPI R., GREENVILLE, C-60
91°47.9W	33°39.9N	15/ 9/73	16°32'10	87-043	ARK., MISS., MISSISSIPPI R., ARKANSAS R., SALINE R., C-65
91°46.9W	34°01.6N	10/ 9/73	18°33'40	40-033	ARKANSAS-MISSISSIPPI, PINE BLUFF, MISSISSIPPI RIV. C-80
91°16.6W	34°02.3N	15/ 9/73	16°32'19	40-300	ARKANSAS, MISSISSIPPI, MISSISSIPPI RIV., WHITE RIV. PINE BLUFF C-70
91°38.3W	34°08.6N	10/ 9/73	18°33'42	85-337	ARK., ARKANSAS R., PINE BLUFF, DUMAS, C-60
91°16.2W	34°24.7N	10/ 9/73	18°33'49	85-338	ARK., MISS., MISSISSIPPI R., ARKANSAS R., DEWITT, C-65
91°02.4W	37°28.0N	14/ 9/73	17°16'40	40-244	MISSOURI
91°11.6W	39°53.3N	18/ 9/73	15°59'15	46-195	ILLINOIS, MISSOURI, IOWA, MISSISSIPPI RIV., BURLINGTON C-18
91°14.6W	39°52.5N	18/ 9/73	15°59'14	88-218	ILL., IOWA, MO., KEOKUK, QUINCY, MISSISSIPPI R., HANNAH
91°47.9W	41°21.6N	20/ 9/73	21°02'30	88-327	IOWA, ILLINOIS, MUSCATINE, MISSISSIPPI R., IOWA CITY
91°20.9W	41°08.1N	20/ 9/73	21°02'36	88-328	IOWA, ILLINOIS, IOWA CITY, IOWA R., MISSISSIPPI R., MUSCATINE, C-20
91°25.8W	42°36.8N	7/ 9/73	20°46'10	34-297	WISCONSIN-IOWA-ILLINOIS, DUBUQUE, MISSISSIPPI RIV. C-80
91°57.1W	42°23.4N	7/ 9/73	20°46'03	86-095	IOWA, CEDAR RAPIDS, C-85
91°28.4W	42°36.3N	7/ 9/73	20°46'10	86-096	WISCONSIN, IOWA, MISSISSIPPI R., PRAIRIE DU CHIEN, C-85
91°27.5W	43°55.7N	9/ 8/73	13°43'51	28-012	MINNESOTA, WISCONSIN, IOWA, CHIPPEWA RIV. C-80
91°54.5W	44°23.1N	6/ 9/73	21°30'00	34-261	MINNESOTA-WISCONSIN, MISSISSIPPI RIV., LACROSSE, ROCHESTER C-40
91°14.3W	44°37.1N	6/ 9/73	21°30'09	86-036	WISCONSIN, EAU CLAIRE, CHIPPEWA R., CHIPPEWA FALLS, C-20
91°46.6W	44°05.0N	16/ 9/73	17°27'13	88-128	IOWA, MINNESOTA, C-100
91°31.1W	45°34.1N	5/ 8/73	15°00'34	22-174	WISCONSIN, EAU CLAIRE, CHIPPEWA R.
91°42.0W	47°50.1N	19/ 9/73	20°08'18	88-244	MINN., ONTARIO, SILVER BAY, MESABI IRON MINES, VERMILLION RANGE
91°24.5W	49°43.3N	11/ 9/73	21°06'30	34-355	ONTARIO, IGNACE, SIOUX LOOKOUT, SAVANT LAKE C-70
91°58.1W	49°40.5N	11/ 9/73	21°06'23	86-242	ONTARIO, SIOUX LOOKOUT, IGNACE, ENGLISH R., C-55
90°02.4W	12°59.5N	11/ 8/73	15°37'01	28-081	EL SALVADOR, PUNTA REMEDIOS, SONSONATE, AHUACHAPAN
90°50.2W	13°58.1N	11/ 8/73	15°36'41	28-079	GUATEMALA, SAN JOSE, ESCUINTLA, GUATEMALA CITY C-20
90°26.3W	13°29.0N	11/ 8/73	15°36'51	28-080	GUATEMALA, EL SALVADOR, TAXISCO, CHIQUIMULILLA C-15
90°50.2W	13°59.3N	11/ 8/73	15°36'41	84-032	GUATEMALA, SAN JOSE, ESCUINTLA, CHIQUIMULILLA, C-20
90°35.0W	13°40.5N	11/ 8/73	15°36'47	84-033	GUATEMALA, EL SALVADOR, RIO PAZ, TAXISCO, C-15
90°19.6W	13°21.2N	11/ 8/73	15°36'54	84-034	GUATEMALA, EL SALVADOR, LAS LISTAS, C-12
90°04.1W	13°02.4N	11/ 8/73	15°37'00	84-035	PACIFIC OCEAN OFF EL SALVADOR, C-20
90°51.2W	15°35.1N	12/ 8/73	14°52'00	28-214	MEXICO, CAMPECHE STATE, CAMPECHE, C-15
90°31.1W	23°48.6N	3/ 8/73	18°08'36	22-025	GULF OF MEXICO, C-20
90°27.1W	23°59.6N	8/ 8/73	16°08'11	* 22-359	GULF OF MEXICO, C-15
90°58.4W	26°35.4N	12/ 9/73	17°05'01	40-099	GULF OF MEXICO, C-25
90°16.3W	26°47.1N	17/ 9/73	15°03'42	46-091	GULF OF MEXICO C-20
90°01.1W	27°29.3N	12/ 9/73	17°05'21	40-100	GULF OF MEXICO, C-40
90°05.4W	28°00.6N	4/ 8/73	17°24'21	22-122	GULF OF MEXICO, C-95
90°30.1W	30°27.2N	21/ 9/73	13°46'30	46-277	LOUISIANA, MISSISSIPPI R., BOGALUSA, MISS. TEST FACILITY, NEW ORLEANS
90°47.2W	30°11.8N	21/ 9/73	13°46'24	87-262	LA., MISSISSIPPI R., BATON ROUGE, LAKE PONTCHARTRAIN
90°29.1W	30°27.1N	21/ 9/73	13°46'30	87-263	LA., MISSISSIPPI, LAKE PONTCHARTRAIN, HAMMOND, BOGALUSA
90°08.7W	30°44.2N	21/ 9/73	13°46'36	87-264	LA., MISSISSIPPI, PEARL R., BOGALUSA, COVINGTON
90°26.2W	30°56.1N	16/ 9/73	15°48'10	88-041	LOUISIANA, MISSISSIPPI, HAMMOND, MCCOMB, BOGALUSA
90°08.0W	31°10.4N	16/ 9/73	15°48'16	46-012	LOUISIANA, MISSISSIPPI RIV., LAKE PONTCHARTRAIN, BOGALUSA, MCCOMB C-10
90°12.0W	32°09.9N	5/ 8/73	16°40'04	22-237	ARKANSAS, MISSISSIPPI, MISSISSIPPI R., JACKSON, BARNETT RES.
90°58.8W	32°47.3N	5/ 8/73	16°49'49	83-215	ARK., MISS., LA., GREENVILLE, MISSISSIPPI R., VICKSBURG, C-30
90°12.3W	32°11.2N	5/ 8/73	16°40'03	83-216	MISS., JACKSON, ROSS BARNETT RES., BIG BLACK R.
90°39.3W	34°50.4N	10/ 9/73	18°34'00	40-034	ARKANSAS-MISSISSIPPI, MISSISSIPPI RIV. C-80
90°43.0W	34°26.7N	15/ 9/73	16°32'29	40-301	MISSISSIPPI-ARKANSAS, MISSISSIPPI RIV., HELENA C-60
90°08.4W	34°51.4N	15/ 9/73	16°32'35	40-302	TENNESSEE, MISSISSIPPI, ARKANSAS, MEMPHIS C-60
90°53.8W	34°40.7N	10/ 9/73	18°33'56	85-339	ARK., MISS., MISSISSIPPI R., HELENA, C-75
90°31.1W	34°56.9N	10/ 9/73	18°34'02	85-340	ARK., MISS., MISSISSIPPI R., HELENA, C-80
90°59.8W	34°15.3N	15/ 9/73	16°32'24	87-044	ARK., MISS., MISSISSIPPI R., WHITE R., C-60
90°10.7W	34°50.4N	15/ 9/73	16°32'39	87-045	ARK., MISS., TENNESSEE, MISSISSIPPI R., MEMPHIS, C-35
90°08.4W	35°12.8N	10/ 9/73	18°34'09	85-341	KENTUCKY, CLOUDS, C-90
90°20.2W	40°36.8N	13/ 9/73	18°01'00	40-180	CLOUDS OVER ILLINOIS C-98
90°42.3W	40°48.2N	20/ 9/73	21°02'46	46-263	IOWA, ILLINOIS, MISSISSIPPI RIV., MUSCATINE, DAVENPORT C-30
90°16.9W	40°23.0N	18/ 9/73	15°59'28	88-219	ILL., PEKIN, ILLINOIS R., CANTON, MCCOMB
90°53.5W	40°54.6N	20/ 9/73	21°02'43	88-329	IOWA, ILLINOIS, MUSCATINE, MISSISSIPPI R., BURLINGTON, C-30

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
90°26.8W	40°40.9N	20/ 9/73	21°02'49	88-330	ILLINOIS, ILLINOIS R., GALESBURG, C-35
90°00.1W	40°27.3N	20/ 9/73	21°02'56	88-331	ILLINOIS, ILLINOIS R., PEORIA, HAVANA, C-35
90°59.4W	42°49.0N	7/ 9/73	20°46'16	86-097	WISCONSIN, IOWA, ILL., MISSISSIPPI R., PLATTEVILLE, C-85
90°42.6W	43°37.9N	9/ 8/73	13°44'01	28-013	WISCONSIN, IOWA, MINNESOTA C-95
90°30.1W	43°01.8N	7/ 9/73	20°46'23	86-098	WISCONSIN, IOWA, ILL., MISSISSIPPI R., C-80
90°00.4W	43°14.2N	7/ 9/73	20°46'30	86-099	WISCONSIN, MADISON, C-80
90°20.5W	44°57.2N	6/ 9/73	21°30'21	34-262	WISCONSIN, WAUSAU, TOMAHAWK, WISCONSIN RIV. C-60
90°29.8W	44°33.1N	16/ 9/73	17°27'30	46-079	MINN., C-90
90°42.3W	44°29.8N	16/ 9/73	17°27'27	88-129	IOWA, MINNESOTA, C-96
90°43.6W	45°17.6N	5/ 8/73	15°00'44	22-175	WISCONSIN, EAU CLAIRE, CHIPPEWA R. MARSHFIELD
90°05.1W	45°03.1N	6/ 9/73	21°30'24	86-037	WISCONSIN, WAUSAU, WISCONSIN R., MARSHFIELD, C-25
90°27.1W	47°32.9N	15/ 9/73	20°08'32	88-245	MINN., LAKE SUPERIOR, GRAND MARIAS, TACONITE HARBOR
90°27.8W	49°48.6N	11/ 9/73	21°06'40	34-356	ONTARIO, WEST OF LAKE NIPIGON C-80
90°47.0W	49°46.9N	11/ 9/73	21°06'37	86-243	ONTARIO, LAKE NIPIGON C-75
89°39.0W	12°30.1N	11/ 8/73	15°37'11	28-082	PACIFIC OCEAN, C-15
89°48.2W	12°42.5N	11/ 8/73	15°37'07	84-036	PACIFIC OCEAN OFF EL SALVADOR, C-20
89°33.4W	12°24.4N	11/ 8/73	15°37'13	84-037	PACIFIC OCEAN OFF EL SALVADOR, C-20
89°18.3W	12°05.4N	11/ 8/73	15°37'20	84-038	PACIFIC OCEAN OFF EL SALVADOR, C-35
89°37.0W	22°52.9N	3/ 8/73	18°08'56	22-026	GULF OF MEXICO, MEXICO, ARRECIFE ALACAFAN, C-20
89°33.4W	23°04.3N	8/ 8/73	16°08'30	* 22-360	GULF OF MEXICO, ARECIFE ALACRAN, C-15
89°07.4W	27°07.2N	4/ 8/73	17°24'41	22-123	GULF OF MEXICO, C-40
89°32.1W	27°56.0N	12/ 9/73	17°05'31	40-101	GULF OF MEXICO, C-60
89°18.3W	27°41.1N	17/ 9/73	15°04'02	46-092	GULF OF MEXICO C-25
89°48.2W	27°41.8N	12/ 9/73	17°05'25	86-282	GULF OF MEXICO, C-100
89°02.4W	27°56.6N	17/ 9/73	15°04'07	88-137	GULF OF MEXICO, C-30
89°02.8W	28°22.5N	12/ 9/73	17°05'41	40-102	GULF OF MEXICO, C-40
89°06.4W	28°20.0N	12/ 9/73	17°05'40	86-283	GULF OF MEXICO, C-100
89°59.1W	30°53.1N	21/ 9/73	13°46'40	46-278	LOUISIANA, MISSISSIPPI R., HATTIESBURG, SLIDELL, BOGALUSA
89°08.4W	31°19.2N	5/ 8/73	16°40'24	22-238	MISSISSIPPI, ALABAMA, MAGEE, C-65
89°27.8W	31°18.8N	21/ 9/73	13°46'50	46-279	MISSISSIPPI, LOUISIANA, HATTIESBURG, LAUREL
89°27.2W	31°35.1N	5/ 8/73	16°40'18	83-217	MISS., ALA., MAGEE, COLLINS, BAY SPRING, C-55
89°48.2W	31°01.2N	21/ 9/73	13°46'43	87-265	MISSISSIPPI, LA., HATTIESBURG, PEARL P., COLUMBIA
89°27.5W	31°18.2N	21/ 9/73	13°46'50	87-266	MISSISSIPPI, HATTIESBURG, COLUMBIA, LAUREL, COLLINS
89°06.7W	31°35.1N	21/ 9/73	13°46'56	87-267	MISSISSIPPI, HATTIESBURG, LAUREL, WAYNESBORO
89°41.7W	31°32.7N	16/ 9/73	15°48'25	88-042	MISSISSIPPI, HATTIESBURG, LAUREL, MAGEE, C-15
89°04.4W	32°01.7N	16/ 9/73	15°48'36	46-013	MISSISSIPPI, ALABAMA, MERIDIAN, HATTIESBURG, LAUREL C-15
89°29.5W	35°39.0N	10/ 9/73	18°34'20	40-035	MISSISSIPPI-TENNESSEE, C-90
89°34.1W	35°15.5N	15/ 9/73	16°32'49	40-303	TENNESSEE, MISSISSIPPI, ARKANSAS, MEMPHIS C-65
89°20.9W	35°25.2N	15/ 9/73	16°32'53	87-046	MISS., TENN., ARK., MISSISSIPPI R., BROWNSVILLE, COVINGTON, C-65
89°34.4W	38°38.3N	9/ 9/73	19°18'31	40-009	MISSOURI, ILLINOIS, ST. GENEVIEVE, MISSISSIPPI RIV. C-80
89°47.9W	38°13.5N	14/ 9/73	17°17'00	40-245	MISSOURI, ILLINOIS, LAKE CARLYLE, ST. LOUIS C-85
89°07.4W	39°59.4N	20/ 9/73	21°03'09	88-333	ILLINOIS, BLOOMINGTON, LINCOLN, DECATUR, C-45
89°51.5W	40°35.7N	18/ 9/73	15°59'35	46-196	ILLINOIS, PEORIA, ILLINOIS RIV., GALESBURG C-15
89°10.7W	40°56.3N	18/ 9/73	15°55'45	46-197	ILLINOIS, PEORIA, ILLINOIS RIV., BLOOMINGTON C-11
89°20.9W	40°05.8N	20/ 9/73	21°03'06	46-264	ILLINOIS, PEORIA, ILLINOIS RIV., C-60
89°18.6W	40°53.0N	18/ 9/73	15°59'43	88-220	ILL., ILLINOIS R., PEORIA, BLOOMINGTON, LASALLE
89°33.7W	40°13.4N	20/ 9/73	21°03'03	88-332	ILLINOIS, ILLINOIS R., PEORIA, LINCOLN, BLOOMINGTON, C-40
89°13.3W	41°11.1N	13/ 9/73	18°01'16	87-020	ILLINOIS, C-99
89°14.3W	43°01.4N	9/ 8/73	13°44'21	28-014	WISCONSIN, ILLINOIS C-99
89°58.8W	43°14.4N	7/ 9/73	20°46'30	34-298	WISCONSIN, PORTAGE, WISCONSIN RIV., MADISON C-80
89°10.0W	43°35.0N	7/ 9/73	20°46'41	86-100	WISCONSIN, MADISON, C-70
89°10.0W	44°45.2N	5/ 8/73	15°01'04	22-177	WISCONSIN, WISCONSIN R., WAUSAU, OSHKOSH
89°56.8W	45°02.0N	5/ 8/73	15°00'54	22-176	WISCONSIN, WISCONSIN R., WAUSAU, STEVENS POINT
89°53.5W	46°22.1N	15/ 9/73	18°11'33	40-346	WISCONSIN, MINNESOTA C-100
89°13.0W	47°14.8N	19/ 9/73	20°08'47	88-246	MICHIGAN, ONTONAGON, HANCOCK, KEWEENAW PEN., LAKE SUPERIOR
89°31.1W	49°52.8N	11/ 9/73	21°06'49	34-357	ONTARIO, LAKE NIPIGON C-80
89°20.3W	49°53.5N	11/ 9/73	21°06'51	86-244	ONTARIO, LAKE NIPIGON C-75
88°44.3W	21°57.2N	3/ 8/73	18°09'16	22-027	GULF OF MEXICO, MEXICO, YUCATAN, C-20
88°40.0W	22°08.2N	8/ 8/73	16°08'51	* 22-361	GULF OF MEXICO, YUCATAN
88°10.7W	26°13.3N	4/ 8/73	17°25'01	22-124	GULF OF MEXICO, SEA SURFACE STATE, C-40
88°26.7W	28°48.5N	12/ 9/73	17°05'51	40-103	GULF OF MEXICO C-25
88°19.9W	28°34.4N	17/ 9/73	15°04'22	46-093	GULF OF MEXICO C-30
88°19.9W	28°35.0N	17/ 9/73	15°04'21	88-138	GULF OF MEXICO, C-35
88°37.4W	30°53.4N	5/ 8/73	16°40'34	22-239	ALA., MISS., FLA., MOBILE, PENSACOLA, C-75

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
88°06.4W	30°27.7N	5/ 8/73	16°40'44	22-240	ALA., FLA., MOBILE BAY, PENSACOLA, C-50
88°42.0W	30°58.4N	5/ 8/73	16°40'32	83-218	ALA., MISS., MOBILE, PRICHARD, ALABAMA R., C-80
88°56.5W	31°44.2N	21/ 9/73	13°47'00	46-280	MISSISSIPPI, ALABAMA, LAUREL, MERIDIAN, TOMBIGEE RIV.
88°45.6W	31°51.9N	21/ 9/73	13°47'03	87-268	MISSISSIPPI, ALA., MERIDIAN, LAUREL, CHICKASAWHAY R.
88°23.9W	32°10.1N	21/ 9/73	13°47'10	46-281	MISSISSIPPI, ALABAMA, MERIDIAN, TOMBIGEE RIV., DEMOPCLIS
88°24.5W	32°08.8N	21/ 9/73	13°47'09	87-269	MISSISSIPPI, ALA., MERIDIAN, YORK, TOMBIGEE R.
88°03.4W	32°25.4N	21/ 9/73	13°47'16	87-270	MISSISSIPPI, ALA., YORK, DEMOPOLIS, TOMBIGEE R.
88°56.2W	32°08.8N	16/ 9/73	15°48'39	88-043	MISSISSIPPI, ALABAMA, MERIDIAN, NEWTON, C-15
88°10.4W	32°44.7N	16/ 9/73	15°48'53	88-044	MISSISSIPPI, ALABAMA, TOMBIGEE R., EUTAW
88°59.5W	35°39.2N	15/ 9/73	16°32'59	40-304	ARK., TENN., MO., KY., MISSISSIPPI RIV., TENNESSEE RIV. C-80
88°30.5W	35°59.6N	15/ 9/73	16°33'07	87-047	TENN., KY., KENTUCKY LAKE, MURRAY, PARIS, C-65
88°23.9W	36°03.3N	15/ 9/73	16°33'09	40-305	TENN., KY., TENNESSEE RIV., LAND BETWEEN THE LAKES C-70
88°32.1W	38°57.8N	14/ 9/73	17°17'20	40-246	ILLINOIS, SHELBYVILLE RES., MATTOON, DECATUR C-50
88°55.8W	39°00.6N	9/ 9/73	19°18'41	40-010	ILLINOIS, MT. VERNON C-90
88°17.3W	39°22.3N	9/ 9/73	19°18'51	40-011	ILLINOIS, C-98
88°02.8W	39°24.0N	20/ 9/73	21°03'26	46-265	ILLINOIS, INDIANA, BLOOMINGTON C-85
88°41.3W	39°45.2N	20/ 9/73	21°03'16	88-334	ILLINOIS, DECATUR, C-45
88°15.3W	39°31.1N	20/ 9/73	21°03'22	88-335	ILLINOIS, TUSCOLA, PARIS, C-60
88°58.2W	41°17.9N	13/ 9/73	18°01'20	40-181	ILLINOIS, BLOOMINGTON C-90
88°29.8W	41°16.5N	18/ 9/73	15°55'55	46-198	ILLINOIS, CHICAGO + WESTERN SUBURBS, ILLINOIS RIV.
88°13.7W	41°40.1N	13/ 9/73	18°01'31	87-021	ILLINOIS, CHICAGO + WESTERN SUBURBS, C-90
88°19.3W	41°22.3N	18/ 9/73	15°55'57	88-221	ILLINOIS, CHICAGO'S WESTERN SUBURBS, ILLINOIS R., FOX R.
88°29.8W	43°50.6N	7/ 9/73	20°46'50	34-299	WISCONSIN, GREEN BAY, LAKE MICHIGAN, MANITOWOC C-70
88°40.7W	43°47.0N	7/ 9/73	20°46'48	86-101	WISCONSIN, C-95
88°11.7W	43°58.2N	7/ 9/73	20°46'54	86-102	WISCONSIN, LAKE MICHIGAN, C-90
88°23.9W	44°28.4N	5/ 8/73	15°01'14	22-178	WISCONSIN, LAKE WINNEBAGO, GREEN BAY, APPLETON
88°47.3W	44°37.6N	5/ 8/73	15°01'08	83-140	WISCONSIN, APPLETON, SHAWANO
88°17.0W	44°26.4N	5/ 8/73	15°01'15	83-141	WISCONSIN, GREEN BAY, LAKE WINNEBAGO, APPLETON
88°46.0W	45°29.3N	6/ 9/73	21°30'40	34-263	WISCONSIN-MICHIGAN, MENOMINEE, RHINELANDER, ANTIGO C-60
88°56.8W	45°26.4N	6/ 9/73	21°30'38	86-038	WISCONSIN, ANTIGO, RHINELANDER, LANDA, C-30
88°13.7W	46°50.1N	15/ 9/73	18°11'53	40-347	WISCONSIN, MICHIGAN C-100
88°32.1W	49°57.0N	11/ 9/73	21°07'00	34-358	ONTARIO, LAKE NIPGON C-80
87°51.6W	21°00.8N	3/ 8/73	18°09'36	22-028	MEXICO, YUCATAN, C-60
87°48.0W	21°12.2N	8/ 8/73	16°09'11	* 22-362	MEXICO, YUCATAN, PUNTA HOLOHIT, C-20
87°14.7W	25°18.9N	4/ 8/73	17°25'21	22-125	GULF OF MEXICO, C-60
87°05.4W	29°35.7N	5/ 8/73	16°41'04	22-242	FLA., PENSACOLA, GULF OF MEXICO, C-50
87°57.5W	29°14.5N	12/ 9/73	17°06'01	40-104	GULF OF MEXICO, ALABAMA, BON SECOUR BAY C-40
87°28.3W	29°40.5N	12/ 9/73	17°06'11	40-105	GULF OF MEXICO, ALABAMA, FLORIDA, PENSACOLA C-40
87°50.3W	29°00.7N	17/ 9/73	15°04'32	46-094	GULF OF MEXICO C-35
87°19.6W	29°27.4N	17/ 9/73	15°04'42	46-095	FLORIDA, PENSACOLA, C-30
87°14.3W	29°44.2N	5/ 8/73	16°41'00	83-220	FLA., PENSACOLA, C-45
87°37.1W	29°13.1N	17/ 9/73	15°04'36	88-139	GULF OF MEXICO, C-35
87°35.8W	30°01.7N	5/ 8/73	16°40'54	22-241	ALA., FLA., MOBILE BAY, PENSACOLA, C-50
87°57.8W	30°21.5N	5/ 8/73	16°40'46	83-219	ALA., FLA., MISS., PENSACOLA, MOBILE BAY, MOBILE, FAIRHOPE, C-40
87°59.5W	32°52.4N	16/ 9/73	15°48'56	46-014	ALABAMA, MISSISSIPPI, TUSCALOOSA, DEMOPOLIS, TOMBIGEE RIV. C-20
87°52.2W	32°35.1N	21/ 9/73	13°47'20	46-282	ALABAMA, MISSISSIPPI, TUSCALOOSA, COLUMBUS
87°42.0W	32°42.0N	21/ 9/73	13°47'23	87-271	ALABAMA, TUSCALOOSA, RUTAW, TOMBIGEE R.
87°20.3W	32°58.7N	21/ 9/73	13°47'29	87-272	ALABAMA, TUSCALOOSA, RUTAW, BLACK WARRIOR R., BESSEMER
87°19.6W	33°00.3N	21/ 9/73	13°47'30	46-283	ALABAMA, BIRMINGHAM, NUMEROUS STRIP MINES
87°23.9W	33°20.3N	16/ 9/73	15°49'07	88-045	ALABAMA, HAZY, TUSCALOOSA, BIRMINGHAM, BESSEMER C-40
87°12.4W	36°49.9N	15/ 9/73	16°33'29	40-306	TENNESSEE-KENTUCKY, TENNESSEE RIV., CUMBERLAND RIV. C-50
87°39.1W	36°33.6N	15/ 9/73	16°33'22	87-048	TENN., KY., KENTUCKY LAKE, BARKLEY LAKE, C-50
87°37.7W	39°44.1N	9/ 9/73	15°19'01	40-012	ILLINOIS, INDIANA C-98
87°13.3W	39°41.8N	14/ 9/73	17°17'40	40-247	ILLINOIS, INDIANA, LAFAYETTE, DANVILLE, WABASH RIV. C-60
87°50.3W	39°17.4N	20/ 9/73	21°03'29	88-336	ILLINOIS, INDIANA, TERRE HAUTE, C-75
87°24.2W	39°02.4N	20/ 9/73	21°03'36	88-337	ILLINOIS, INDIANA, TERRE HAUTE, C-85
87°34.4W	41°57.9N	13/ 9/73	18°01'40	40-182	ILLINOIS, INDIANA, WISCONSIN, CHICAGO, LAKE MICHIGAN C-75
87°48.0W	41°37.0N	18/ 9/73	16°00'05	46-199	ILLINOIS, INDIANA, CHICAGO, LAKE MICHIGAN, JOLIET, AURORA C-11
87°06.0W	41°57.0N	18/ 9/73	16°00'15	46-200	ILLINOIS, INDIANA, LAKE MICHIGAN, CHICAGO, WAUKEGAN C-25
87°40.4W	41°41.3N	18/ 9/73	16°00'06	88-222	ILLINOIS, INDIANA, CHICAGO, LAKE MICHIGAN, GARY
87°12.4W	41°54.3N	18/ 9/73	16°00'13	88-223	ILLINOIS, INDIANA, MICHIGAN, CHICAGO, LAKE MICHIGAN, MICHIGAN CITY C-10
87°48.3W	42°23.4N	5/ 8/73	13°44'41	28-015	ILLINOIS, INDIANA C-98
87°13.0W	42°08.6N	13/ 9/73	18°01'45	87-022	ILLINOIS, CHICAGO LAKE MICHIGAN, WAUKEGAN, C-80
87°38.4W	44°11.7N	5/ 8/73	15°01'24	22-179	WISCONSIN, GREEN BAY, LAKE WINNEBAGO, FOND DU LAC
87°44.7W	44°07.9N	7/ 9/73	20°47'00	34-300	WISCONSIN, GREEN BAY, LAKE MICHIGAN, MANITOWOC C-60
87°46.6W	44°15.0N	5/ 8/73	15°01'22	83-142	WISCONSIN, GREEN BAY, APPLETON, SHEBOYGAN, LAKE MICHIGAN, C-15
87°16.6W	44°03.8N	5/ 8/73	15°01'28	83-143	WISCONSIN, SHEBOYGAN, MANITOWOC, LAKE MICHIGAN, C-15
87°42.0W	44°09.6N	7/ 9/73	20°47'01	86-103	WISCONSIN, LAKE MICHIGAN, GREEN BAY, C-70
87°12.4W	44°20.8N	7/ 9/73	20°47'07	86-104	WISCONSIN, MICHIGAN, LAKE MICHIGAN, C-50
87°47.6W	45°48.8N	6/ 9/73	21°30'52	86-039	WISCONSIN, MICHIGAN, ESCANABA, IRON MTS., NORWAY, C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
87°10.1W	46°00.0N	6/ 9/73	21°31'00	34-264	MICHIGAN-WISCONSIN, ESCANABA, MARQUETTE, ISHPIMING C-50
87°20.0W	46°45.0N	19/ 9/73	20°09'09	46-219	LAKE SUPERIOR, KEWEENAW PEN., MANITOU IS. C-60
87°59.8W	46°55.9N	19/ 9/73	20°09'01	88-247	MICHIGAN, KEWEENAW PEN., KEWEENAW BAY, LAKE SUPERIOR
87°35.1W	50°00.6N	11/ 9/73	21°07'10	34-359	ONTARIO, LAKE NIPGON C-80
86°57.0W	20°06.0N	3/ 8/73	18°09'56	22-029	MEXICO, YUCATAN, COZMEL I., C-60
86°19.6W	24°24.2N	4/ 8/73	17°25'41	22-126	GULF OF MEXICO, C-15
86°05.5W	28°42.9N	5/ 8/73	16°41'24	22-244	GULF OF MEXICO, C-75
86°35.4W	29°09.5N	5/ 8/73	16°41'14	22-243	GULF OF MEXICO, C-70
86°49.6W	29°53.5N	17/ 9/73	15°04'52	46-096	FLORIDA, PENSACOLA, PENSACOLA BAY, FT. WALTON BEACH C-11
86°31.2W	29°06.7N	5/ 8/73	16°41'15	83-221	GULF OF MEXICO, C-65
86°53.2W	29°51.0N	17/ 9/73	15°04'50	88-140	FLORIDA, GULF COAST AT SANTA ROSI I., C-15
86°59.1W	30°06.5N	12/ 9/73	17°06'21	40-106	ALABAMA, FLORIDA, FORT WALTON BEACH C-60
86°29.9W	30°32.5N	12/ 9/73	17°06'31	40-107	FLORIDA, PENSACOLA, FORT WALTON BEACH C-70
86°19.0W	30°19.5N	17/ 9/73	15°05'02	46-097	FLORIDA, ALABAMA, PENSACOLA, PANAMA CITY, CHOCTAWHATCHEE BAY
86°09.1W	30°28.6N	17/ 9/73	15°05'05	88-141	FLORIDA, FORT WALTON BEACH, PANAMA CITY, CHOCTAWHATCHEE BAY, C-10
86°53.9W	33°42.0N	16/ 9/73	15°49'16	46-015	ALABAMA, BIRMINGHAM, STRIP MINES, TENNESSEE RIV. C-4C
86°46.7W	33°25.2N	21/ 9/73	13°47'40	46-284	ALABAMA, BIRMINGHAM, TALLADEGA, ANNISTON, COOSA RIV.
86°13.4W	33°49.9N	21/ 9/73	13°47'50	46-285	ALABAMA BIRMINGHAM, ANNISTON, GADSDEN, COOSA RIV.
86°58.8W	33°15.2N	21/ 9/73	13°47'36	87-273	ALABAMA, BIRMINGHAM, BANKHEAD LAKE, BLACK WARRIOR R.
86°36.8W	33°31.7N	21/ 9/73	13°47'42	87-274	ALABAMA, BIRMINGHAM, STRIP MINES, COOSA R.
86°15.0W	33°48.0N	21/ 9/73	13°47'49	87-275	ALABAMA, COOSA R., ANNISTON, GADSDEN
86°36.8W	33°55.5N	16/ 9/73	15°49'21	88-046	ALABAMA, CULLMAN, GUNTHERSVILLE, TENNESSEE R., HAZY, C-65
86°47.0W	37°07.0N	15/ 9/73	16°33'36	87-049	KY., BOWLING GREEN, ROUGH RIVER RES., GREEN R., C-35
86°45.7W	38°39.3N	20/ 9/73	21°03'46	46-266	INDIANA C-99
86°58.8W	38°47.9N	20/ 9/73	21°03'42	88-338	INDIANA, C-96
86°33.8W	38°38.2N	20/ 9/73	21°03'49	88-339	INDIANA, C-100
86°08.7W	38°18.4N	20/ 9/73	21°03'55	88-340	INDIANA, KENTUCKY, C-100
86°58.5W	40°05.3N	9/ 9/73	19°19'11	40-013	INDIANA, C-99
86°18.3W	40°26.3N	9/ 9/73	19°19'21	40-014	INDIANA, C-99
86°24.6W	41°44.9N	9/ 8/73	13°45'01	28-016	INDIANA, MICHIGAN, SOUTH BEND, ELKHART, NILES C-60
86°09.4W	42°36.6N	13/ 9/73	18°02'00	40-183	INDIANA, MICHIGAN, GRAND RAPIDS, LAKE MICHIGAN, C-70
86°24.0W	42°16.0N	18/ 9/73	16°00'25	46-201	INDIANA, MICHIGAN, LAKE MICHIGAN, GRAND RAPIDS C-35
86°11.1W	42°36.5N	13/ 9/73	18°02'00	87-023	MICHIGAN, LAKE MICHIGAN, BENTON HARBOR, HOLLAND, C-60
86°44.7W	42°07.3N	18/ 9/73	16°00'20	88-224	IND., MICH., MICHIGAN CITY, ST. JOSEPH, LAKE MICHIGAN, C-20
86°16.3W	42°20.0N	18/ 9/73	16°00'26	88-225	MICH., BENTON HARBOR, HOLLAND, LAKE MICHIGAN, C-30
86°53.2W	43°53.6N	5/ 8/73	15°01'34	22-180	WISCONSIN, MICHIGAN, LAKE MICHIGAN, MANITOWOC
86°08.4W	43°35.1N	5/ 8/73	15°01'44	22-181	MICHIGAN, LAKE MICHIGAN, MUSKOGON, GRAND RAPIDS
86°47.0W	43°51.9N	5/ 8/73	15°01'35	83-144	MICHIGAN, LUDINGTON, LAKE MICHIGAN, C-15
86°17.3W	43°40.1N	5/ 8/73	15°01'41	83-145	MICHIGAN, LUDINGTON, LAKE MICHIGAN, MUSKOGON
86°58.8W	44°25.2N	7/ 9/73	20°47'10	34-301	WISCONSIN-MICHIGAN, GREEN BAY, LAKE MICHIGAN C-40
86°12.7W	44°42.0N	7/ 9/73	20°47'20	34-302	WISCONSIN-MICHIGAN, LAKE MICHIGAN, TRAVERSE CITY
86°42.4W	44°32.0N	7/ 9/73	20°47'14	86-105	WISCONSIN, MICHIGAN, LAKE MICHIGAN, FRANKFORT, CRYSTAL LAKE, C-30
86°12.4W	44°43.0N	7/ 9/73	20°47'20	86-106	MICHIGAN, LAKE MICHIGAN, TRAVERSE CITY, TRAVERSE BAY, C-15
86°30.2W	46°30.5N	19/ 9/73	20°09'19	46-220	LAKE SUPERIOR C-80
86°37.8W	46°10.4N	6/ 9/73	21°31'07	86-040	MICHIGAN, ESCANABA, MANISTIQUE, LAKES MICHIGAN AND SUPERIOR, C-35
86°57.9W	46°39.0N	19/ 9/73	20°05'13	88-248	MICHIGAN, LAKE SUPERIOR, C-75
86°25.2W	46°29.8N	15/ 9/73	20°05'20	88-249	MICHIGAN, LAKE SUPERIOR, C-95
86°32.1W	47°16.6N	15/ 9/73	18°12'13	40-348	LAKE SUPERIOR, MICHIGAN C-98
86°37.8W	50°03.7N	11/ 9/73	21°07'20	34-360	ONTARIO, LONGLAC C-90
85°08.8W	12°51.2N	12/ 8/73	14°54'20	28-215	NICARAGUA, LA VIGIA C-80
85°25.2W	23°29.0N	4/ 8/73	17°26'01	22-127	GULF OF MEXICO, C-40
85°06.8W	27°49.9N	5/ 8/73	16°41'44	22-246	GULF OF MEXICO, C-65
85°06.8W	27°50.9N	5/ 8/73	16°41'43	83-223	GULF OF MEXICO, C-70
85°36.1W	28°16.4N	5/ 8/73	16°41'34	22-245	GULF OF MEXICO, C-85
85°48.6W	28°28.9N	5/ 8/73	16°41'29	83-222	GULF OF MEXICO, C-90
85°47.7W	30°45.7N	17/ 9/73	15°05'12	46-098	FLORIDA, ALABAMA, GEORGIA, PANAMA CITY C-40
85°31.5W	31°24.6N	12/ 9/73	17°06'51	40-108	FLORIDA, ALABAMA, CHOCTAWHATCHEE BAY C-75
85°16.7W	31°11.4N	17/ 9/73	15°05'22	46-099	FLORIDA, GEORGIA, ALABAMA, LAKE EUFAULA, CHATTAHOOCHEE RIV. C-60
85°24.3W	31°05.8N	17/ 9/73	15°05'19	88-142	FLORIDA, ALABAMA, GEORGIA, CHATTAHOOCHEE R., C-65
85°46.3W	34°31.3N	16/ 9/73	15°49'36	46-016	ALABAMA, TENNESSEE, GEORGIA, HUNTSVILLE, CHATTANOOGA C-30
85°39.7W	34°14.7N	21/ 9/73	13°48'00	46-286	ALABAMA, GEORGIA, GADSDEN, ANNISTON, TALLAPOOSA C-15
85°05.6W	34°39.2N	21/ 9/73	13°48'10	46-287	ALABAMA, GEORGIA, WEISS RES., TENNESSEE R., DUCKTOWN, C-30
85°52.9W	34°04.3N	21/ 9/73	13°47'56	87-276	ALABAMA, GUNTHERSVILLE LAKE, COOSA R., GADSDEN
85°30.5W	34°20.4N	21/ 9/73	13°48'02	87-277	ALABAMA, GUNTHERSVILLE LAKE, WEISS RES., COOSA R., C-12
85°12.0W	34°31.6N	21/ 9/73	13°48'07	87-278	ALABAMA, GA., TENN., CHATTANOOGA, TENN. R., DALTON, FLINT ROCK, C-20
85°48.6W	34°30.3N	16/ 9/73	15°49'36	88-047	ALABAMA, TENNESSEE, GEORGIA, GUNTHERSVILLE LAKE, SCOTTSBORO, HAZY
85°00.2W	35°04.8N	16/ 9/73	15°49'50	88-048	TENNESSEE, GEORGIA, CHATTANOOGA, TENNESSEE R., ATHENS, C-30
85°59.2W	37°36.0N	15/ 9/73	16°33'49	40-307	KENTUCKY-INDIANA, LOUISVILLE, OHIO RIV., OKENSBO C-20

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
85°30.5W	37°54.8N	20/ 9/73	21°04'06	46-267	INDIANA C-100
85°53.9W	37°40.0N	15/ 9/73	16°33'51	87-050	KY., INDIANA, LOUISVILLE, OHIO R., ELIZABETHTON
85°19.6W	37°48.9N	20/ 9/73	21°04'09	88-342	KENTUCKY, C-100
85°44.0W	38°03.7N	20/ 9/73	21°04'02	88-341	INDIANA, KENTUCKY, C-100
85°37.8W	40°47.2N	5/ 9/73	19°19'31	40-015	INDIANA, C-95
85°54.2W	40°24.0N	14/ 9/73	17°18'00	40-248	INDIANA, MARION, KOKOMA, LAFAYETTE C-60
85°01.8W	41°04.7N	9/ 8/73	13°45'21	28-017	INDIANA, MICHIGAN, OHIO, FT. WAYNE, GRAND LAKE
85°41.0W	42°36.0N	18/ 9/73	16°00'35	46-202	MICHIGAN, GRAND RAPIDS, BENTON HARBOR C-35
85°48.0W	42°32.8N	18/ 9/73	16°00'33	88-226	MICH., GRAND RAPIDS, HOLLAND, KALAMAZON, C-30
85°19.6W	42°45.4N	18/ 9/73	16°00'39	88-227	MICH., GRAND RAPIDS, KALAMAZOO, BATTLE CREEK, LANSING, C-35
85°23.9W	43°18.7N	5/ 8/73	15°01'54	22-182	MICHIGAN, GRAND RAPIDS, HOLLAND, MIDLAND
85°47.7W	43°31.0N	5/ 8/73	15°01'48	83-146	MICHIGAN, MUSKEGON, GRAND RAPIDS, BIG RAPIDS
85°18.7W	43°16.7N	5/ 8/73	15°01'55	83-147	MICHIGAN, GRAND RAPIDS, IONIA, GREENVILLE
85°08.4W	43°03.7N	13/ 9/73	18°02'14	87-024	MICHIGAN, GRAND RAPIDS, GRAND R., GREENVILLE, C-40
85°26.2W	44°58.7N	7/ 9/73	20°47'30	34-303	MICHIGAN, LAKE MICHIGAN, TRAVERSE CITY, PETOSKEY
85°42.1W	44°53.7N	7/ 9/73	20°47'27	86-107	MICHIGAN, LAKE MICHIGAN, TRAVERSE BAY, N. MANITOU I., C-15
85°11.4W	45°04.5N	7/ 9/73	20°47'33	86-108	MICHIGAN, LAKE MICHIGAN, TRAVERSE BAY, PETOSKEY
85°32.2W	46°29.2N	6/ 9/73	21°31'20	34-265	MICHIGAN-ONTARIO, LAKE SUPERIOR, LAKE MICHIGAN C-40
85°40.1W	46°16.0N	19/ 9/73	20°09'29	46-221	LAKE SUPERIOR C-96
85°26.6W	46°31.5N	6/ 9/73	21°31'21	86-041	MICHIGAN, LAKE SUPERIOR, LAKE MICHIGAN, NEWBERRY, C-55
85°52.3W	46°20.3N	15/ 9/73	20°05'27	88-250	MICHIGAN, C-100
85°20.0W	46°10.5N	15/ 9/73	20°05'33	88-251	MICHIGAN, C-100
85°40.4W	50°06.4N	11/ 9/73	21°07'30	34-361	ONTARIO C-95
84°10.4W	11°38.1N	12/ 8/73	14°54'45	85-028	NICARAGUA, ESCONPIDO R., C-90
84°45.7W	12°21.4N	12/ 8/73	14°54'33	28-216	NICARAGUA, C-95
84°21.0W	12°00.0N	12/ 8/73	14°54'40	28-217	NICARAGUA, BLUEFIELDS, ISLA DE VENADO C-90
84°31.2W	22°32.5N	4/ 8/73	17°26'22	22-128	GULF OF MEXICO, CUBA, ISLA DE PINOS, C-40
84°08.8W	26°56.1N	5/ 8/73	16°42'04	22-248	GULF OF MEXICO, C-35
84°37.5W	27°23.0N	5/ 8/73	16°41'54	22-247	GULF OF MEXICO, C-35
84°25.6W	27°12.6N	5/ 8/73	16°41'58	83-224	GULF OF MEXICO, C-40
84°45.0W	31°37.0N	17/ 9/73	15°05'32	46-100	GEORGIA, ALABAMA, ALBANY, BLACKSHEAR LAKE C-15
84°38.8W	31°42.7N	17/ 9/73	15°05'33	88-143	GA., ALA., ALBANY, FLINT R., EUFAULA LAKE, C-12
84°23.8W	32°15.4N	12/ 9/73	17°07'11	40-109	ALABAMA, FLORIDA, GEORGIA, LAKE EUFAULA C-85
84°13.4W	32°02.3N	17/ 9/73	15°05'42	46-101	GEORGIA, AMERICUS, ALBANY, BLACKSHEAR LAKE C-15
84°52.3W	34°47.8N	21/ 9/73	13°48'13	87-279	GA., TENN., OOSTANULA R., CHATTANOOGA, COPPER HILL, C-25
84°37.5W	35°19.8N	16/ 9/73	15°49'56	46-017	TENNESSEE, GEORGIA, TENNESSEE RIV., CHATTANOOGA, ATHENS C-30
84°02.8W	35°43.7N	16/ 9/73	15°50'06	46-018	TENNESSEE, KENTUCKY, NO. CAROLINA, KNOXVILLE, STRIP MINES C-30
84°31.5W	35°03.4N	21/ 9/73	13°48'20	46-288	GEORGIA, ALABAMA, TENNESSEE, N. CAROLINA, DUCKTOWN VALLEY C-40
84°29.5W	35°03.8N	21/ 9/73	13°48'20	87-280	GA., TENN., N.C., COPPER HILL, HIASSEE C., LITTLE TENN. R. C-40
84°06.8W	35°19.6N	21/ 9/73	13°48'27	87-281	TENN., N.C., GREAT SMOKY MTS., C-70
84°10.8W	35°38.9N	16/ 9/73	15°50'04	88-049	TENNESSEE, N.C., KNOXVILLE, TENNESSEE R., OAK RIDGE, GATLINBERG
84°55.6W	37°34.2N	20/ 9/73	21°04'15	88-343	KENTUCKY, C-100
84°31.9W	37°19.2N	20/ 9/73	21°04'22	88-344	KENTUCKY, STRIP MINES, C-91
84°07.8W	37°04.2N	20/ 9/73	21°04'28	88-345	KENTUCKY, STRIP MINES, HYDEN, C-75
84°43.7W	38°22.2N	15/ 9/73	16°34'09	40-308	KY., IND., OHIO, LOUISVILLE, CINCINNATI, LEXINGTON, OHIO RIV. C-10
84°59.5W	38°13.3N	15/ 9/73	16°34'05	87-051	KY., INDIANA, LEXINGTON, FRANKFORT, OHIO R., LOUISVILLE
84°05.2W	38°45.4N	15/ 9/73	16°34'19	87-052	OHIO, KY., OHIO R., CINCINNATI, MANCHESTER
84°32.5W	41°05.5N	14/ 9/73	17°18'20	40-249	INDIANA, OHIO, MICHIGAN, LIMA, ANGOLA C-70
84°40.1W	42°58.5N	5/ 8/73	15°02'04	22-183	MICHIGAN, FLINT, LANSING, SAGINAW
84°57.0W	42°54.0N	18/ 9/73	16°00'45	46-203	MICHIGAN, GRAND RAPIDS, LANSING, BATTLE CREEK C-40
84°21.0W	42°51.6N	5/ 8/73	15°02'08	83-149	MICHIGAN, LANSING, OWASSO, FLINT, C-10
84°50.6W	42°57.7N	18/ 9/73	16°00'46	88-228	MICH., LANSING, OWASSO, IONIA, C-35
84°49.6W	43°04.6N	5/ 8/73	15°02'01	83-148	MICHIGAN, LANSING, ALMA, GRAND R., C-10
84°04.5W	43°30.0N	13/ 9/73	18°02'28	87-025	MICHIGAN, SAGINAW BAY, C-92
84°21.6W	43°10.4N	18/ 9/73	16°00'53	88-229	MICH., FLINT, SAGINAW, BAY CITY, MIDLAND, C-20
84°39.1W	45°14.8N	7/ 9/73	20°47'40	34-304	MICHIGAN, STRAIT OF MACKINAC, ST. IGNACE, PETOSKEY
84°02.8W	45°46.1N	15/ 9/73	20°09'49	46-223	LAKE HURON C-100
84°40.8W	45°15.0N	7/ 9/73	20°47'40	86-109	MICHIGAN, LAKE MICHIGAN, LAKE HURON, GAYLORD, CHEBOYGAN
84°09.8W	45°25.4N	7/ 9/73	20°47'46	86-110	MICHIGAN, LAKE HURON, CHEBOYGAN, DRUMMOND I.
84°15.4W	45°50.8N	15/ 9/73	20°09'46	88-253	MICHIGAN, C-100
84°51.3W	46°01.1N	19/ 9/73	20°09'39	46-222	MICHIGAN C-100
84°14.7W	46°51.4N	6/ 9/73	21°31'36	86-042	MICHIGAN, ONTARIO, WHITEFISH BAY, SAULT STE. MARIE, C-80
84°47.7W	46°00.8N	19/ 9/73	20°09'40	88-252	MICHIGAN, C-100
84°48.7W	47°41.5N	15/ 9/73	18°12'33	40-349	LAKE SUPERIOR, C-95
84°43.1W	50°08.3N	11/ 9/73	21°07'40	34-362	ONTARIO C-98
83°33.0W	10°54.0N	12/ 8/73	14°55'00	28-219	NICARAGUA, COSTA RICA, C-90

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SI90 A+B ROLL-FRAME	LOCATION AND COMMENTS
83°12.0W	10°21.0N	12/ 8/73	14°55'10	28-220	CARIBBEAN SEA, C-95
83°39.1W	10°59.8N	12/ 8/73	14°54'58	85-030	NICARAGUA, MOSQUITO COAST, C-99
83°24.0W	10°40.2N	12/ 8/73	14°55'05	85-031	COSTA RICA, CARIBBEAN COAST, C-99
83°09.1W	10°20.4N	12/ 8/73	14°55'11	85-032	COSTA RICA, C-99
83°58.0W	11°26.0N	12/ 8/73	14°54'50	28-218	NICARAGUA, BLUEFIELDS, C-85
83°55.3W	11°18.6N	12/ 8/73	14°54'51	85-029	NICARAGUA, MOSQUITO COAST, C-95
83°06.5W	15°34.4N	3/ 8/73	18°11'30	22-030	HONDURAS, NICARAGUA, CAPE GRACIAS A DIOS, C-20
83°38.5W	21°36.6N	4/ 8/73	17°26'41	22-129	CUBA, ISLA DE PINOS, C-20
83°04.2W	25°55.3N	5/ 8/73	16°42'26	83-226	GULF OF MEXICO, C-85
83°40.1W	26°29.1N	5/ 8/73	16°42'14	22-249	GULF OF MEXICO, C-35
83°12.1W	26°02.1N	5/ 8/73	16°42'24	22-250	GULF OF MEXICO, C-50
83°44.4W	26°34.1N	5/ 8/73	16°42'12	83-225	GULF OF MEXICO, C-55
83°40.8W	32°28.0N	17/ 9/73	15°05'52	46-102	GEORGIA, MACON, WARNER ROBBINS, THOMASTON C-20
83°08.5W	32°53.1N	17/ 9/73	15°06'02	46-103	GEORGIA, MACON, MILLEDGEVILLE, SINCLAIR LAKE C-35
83°52.6W	32°19.5N	17/ 9/73	15°05'48	88-144	GA., MACON, WARNER ROBBINS, BLACKSHEAR LAKE
83°06.2W	32°55.7N	17/ 9/73	15°06'02	88-145	GA., MACON, MILLEDGEVILLE, DUBLIN, C-45
83°18.4W	33°06.2N	12/ 9/73	17°07'31	40-110	GEORGIA, ALABAMA, MACON, COLUMBUS C-50
83°56.9W	35°27.3N	21/ 9/73	13°48'30	46-289	N. CAROLINA, GA., TENN., DUCKTOWN, GREAT SMOKY MTS. C-70
83°22.0W	35°51.1N	21/ 9/73	13°48'40	46-290	GA., S. CAROLINA, N. CAROLINA, TENN., GREAT SMOKY MTS. C-90
83°43.7W	35°35.4N	21/ 9/73	13°48'33	87-282	TENN., N.C., GREAT SMOKY MTS., C-60
83°20.7W	35°51.2N	21/ 9/73	13°48'40	87-283	TENN., N.C., GREAT SMOKY MTS., C-61
83°45.4W	35°56.0N	16/ 9/73	15°50'11	88-050	TENNESSEE, N.C., STRIP MINES, KNOXVILLE, DOUGLAS LAKE, C-15
83°27.6W	36°07.2N	16/ 9/73	15°50'16	46-019	TENN., KY., VA., N.C., KNOXVILLE, CUMBERLAND GAP, DOUGLAS LAKE C-20
83°22.0W	36°11.7N	16/ 9/73	15°50'18	88-051	TENNESSEE, KENTUCKY, VIRGINIA, STRIP MINES, DOUGLAS + CHEROKEE LAKES
83°44.4W	36°49.4N	20/ 9/73	21°04'35	88-346	KY., VA., TENN., CLINCH R., HARLAN, C-50
83°21.0W	36°34.1N	20/ 9/73	21°04'41	88-347	KY., VA., TENN., CLINCH R., CHEROKEE LAKE, C-60
83°28.2W	39°05.5N	15/ 9/73	16°34'29	40-309	KY., OHIO, OHIO RIV., CINCINNATI, COLUMBUS, SIOTO RIV. C-10
83°13.7W	39°16.5N	15/ 9/73	16°34'34	87-053	OHIO, CHILLICOTHE, SCIOTO R., COLUMBUS, STRIP MINES
83°41.1W	40°23.6N	9/ 8/73	13°45'41	28-018	OHIO, INDIANA, WAPAKONETA, GRAND LAKE, DAYTON
83°01.5W	40°02.5N	9/ 8/73	13°45'51	28-019	OHIO, DAYTON, SPRINGFIELD, COLUMBUS, LIMA C-25
83°09.5W	41°45.9N	14/ 9/73	17°18'40	40-250	MICHIGAN, OHIO, ANN ARBOR, WILLOW RUN C-85
83°56.3W	42°42.2N	5/ 8/73	15°02'14	22-184	MICHIGAN, DETROIT, FLINT, LANSING, JACKSON
83°13.7W	42°21.3N	5/ 8/73	15°02'24	22-185	MICHIGAN, ONTARIO, OHIO, DETROIT, WINDSOR, TOLEDO
83°52.3W	42°41.1N	5/ 8/73	15°02'14	83-150	MICHIGAN, FLINT, LANSING, ANN ARBOR, PONTIAC, C-12
83°24.3W	42°26.6N	5/ 8/73	15°02'21	83-151	MICHIGAN, ONTARIO, DETROIT, WINDSOR, FLINT, LAKE ERIE, C-15
83°28.6W	43°31.8N	18/ 9/73	16°01'05	46-204	MICHIGAN, FLINT, SAGINAW, BAY CITY, SAGINAW BAY C-20
83°52.6W	43°22.1N	18/ 9/73	16°00'59	88-230	MICH., SAGINAW BAY, FLINT, SAGINAW, BAY CITY, MIDLAND, C-10
83°23.0W	43°35.0N	18/ 9/73	16°01'06	88-231	MICH., SAGINAW BAY, LAKE HURON, BAY CITY, C-10
83°51.6W	45°30.8N	7/ 9/73	20°47'50	34-305	MICHIGAN, STRAIT OF MACKINAC, ALPENA, CHEBOYGAN
83°02.0W	45°47.0N	7/ 9/73	20°48'00	34-306	MICHIGAN-ONTARIO, LAKE HURON, NORTH CHANNEL, MANITOULIN I C-25
83°14.7W	45°30.7N	19/ 9/73	20°09'59	46-224	LAKE HURON C-100
83°38.8W	45°35.6N	7/ 9/73	20°47'53	86-111	MICHIGAN, ONTARIO, LAKE HURON, ROGER'S CITY, MANITOULIN I.
83°07.5W	45°45.7N	7/ 9/73	20°47'59	86-112	MICHIGAN, ONTARIO, LAKE HURON, MANITOULIN I., N. CHANNEL
83°43.7W	45°40.7N	15/ 9/73	20°05'53	88-254	LAKE HURON, C-100
83°11.8W	45°30.3N	19/ 9/73	20°10'00	88-255	LAKE HURON, C-100
83°50.7W	46°57.2N	6/ 9/73	21°31'41	34-266	ONTARIO-MICHIGAN, ST. MARY'S RIV., SAULT ST. MARIE C-70
83°01.5W	47°10.5N	6/ 9/73	21°31'50	86-043	ONTARIO, C-90
83°03.9W	48°04.6N	15/ 9/73	18°12'53	40-350	LAKE SUPERIOR, C-99
83°45.7W	50°09.8N	11/ 9/73	21°07'50	34-363	ONTARIO C-98
82°03.9W	8°55.7N	12/ 8/73	14°55'40	28-223	PANAMA, LAGUNA CHIRIQUI, CERO SANTIAGO C-40
82°49.0W	9°51.0N	12/ 8/73	14°55'20	28-221	CARIBBEAN SEA, C-95
82°26.9W	9°25.2N	12/ 8/73	14°55'30	28-222	COSTA RICA, PANAMA, ISLA BASTIMENTOS, LAGUNA, CHIRIQUI C-75
82°38.8W	9°41.6N	12/ 8/73	14°55'24	85-034	CARIBBEAN SEA, C-99
82°54.0W	10°01.0N	12/ 8/73	14°55'18	85-033	CARIBBEAN SEA, C-99
82°18.4W	14°36.5N	3/ 8/73	18°11'50	22-032	CARIBBEAN SEA, BANCO DE CABO FALSO, C-30
82°42.4W	15°05.5N	3/ 8/73	18°11'40	22-031	HONDURAS, NICARAGUA, CAPE GRACIAS A DIOS, BANCO DE CABO FALSO, C-20
82°46.7W	20°40.4N	4/ 8/73	17°27'01	22-130	CUBA, ISLA DE PINOS, CARIBBEAN, C-20
82°44.1W	25°34.9N	5/ 8/73	16°42'34	22-251	GULF OF MEXICO, C-60
82°16.1W	25°07.4N	5/ 8/73	16°42'44	22-252	FLA. KEYS, FLORIDA BAY, KEY WEST, C-60
82°24.0W	25°16.3N	5/ 8/73	16°42'41	83-227	GULF OF MEXICO, C-95
82°45.7W	33°31.6N	12/ 9/73	17°07'41	40-111	GEORGIA, SOUTH CAROLINA, AUGUSTA, MACON C-20
82°13.0W	33°57.0N	12/ 9/73	17°07'51	40-112	GEORGIA, SOUTH CAROLINA, AUGUSTA, CLARK HILL RES.
82°35.8W	33°18.0N	17/ 9/73	15°06'12	46-104	GEORGIA, S. CAROLINA, AUGUSTA, CLARK HILL RES. C-30
82°02.2W	33°43.0N	17/ 9/73	15°06'22	46-105	GEORGIA, S. CAROLINA, AUGUSTA, SAVANNAH RIV. C-20
82°23.3W	33°50.4N	12/ 9/73	17°07'48	86-284	S.C., GA., SAVANNAH R., AUGUSTA, CLARK HILL RES.
82°18.7W	33°31.7N	17/ 9/73	15°06'17	88-146	GA., S.C., AUGUSTA, SAVANNAH R., CLARK HILL RES., C-18

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
82°00.9W	34°06.8N	12/ 5/73	17°07'55	86-285	S.C., GA., CLARK HILL RES., LAKE GREENWOOD
82°11.8W	35°48.1N	20/ 9/73	21°05'01	88-350	N.C., TENN., ASHVILLE, MORGANTOWN, C-40
82°51.7W	36°31.1N	16/ 9/73	15°50'26	46-020	TENN., KY., VA., N.C., BRISTOL, KINGSPORT, APPALACHIA C-15
82°15.1W	36°55.2N	16/ 9/73	15°50'36	46-021	TENN., KY., VA., N.C. WEST VA., KINGSPORT, JOHNSON CITY C-15
82°44.4W	36°20.2N	21/ 9/73	13°48'50	46-291	TENN., KY., VA., N. CAROLINA, C-95
82°08.5W	36°45.1N	21/ 9/73	13°45'00	46-292	N. CAROLINA, VA., WEST VA., KY., TENN., C-98
82°56.9W	36°07.9N	21/ 9/73	13°48'46	87-284	TENN., N.C., KY., VA., C-95
82°31.6W	36°30.6N	21/ 9/73	13°48'53	87-285	TENN., KY., VA., C-98
82°08.2W	36°45.1N	21/ 9/73	13°45'00	87-286	VA., KY., W. VA., C-99
82°58.6W	36°27.3N	16/ 9/73	15°50'24	88-052	TENNESSEE, VIRGINIA, KENTUCKY, STRIP MINES, KINGSPORT, CUMBERLAND GAP
82°34.2W	36°43.6N	16/ 9/73	15°50'31	88-053	TENNESSEE, VIRGINIA, KENTUCKY, STRIP MINES, KINGSPORT, BRISTOL
82°10.5W	36°58.8N	16/ 9/73	15°50'38	88-054	TENNESSEE, KY., VA., W. VA., BRISTOL, WISE, STRIP MINES
82°57.6W	36°18.8N	20/ 9/73	21°04'48	88-348	VA., TENN., CHEROKEE RES., CLINCH R., C-78
82°34.5W	36°03.4N	20/ 9/73	21°04'54	88-349	N.C., TENN., ASHVILLE, GREAT SMOKY MTS., C-70
82°22.0W	39°41.3N	9/ 8/73	13°46'01	28-020	OHIO, KENTUCKY, COLUMBUS, NEWARK, SCIOTO RIV. C-30
82°09.1W	39°49.7N	15/ 9/73	16°34'49	40-310	OHIO, COLUMBUS, ZANESVILLE, STRIP MINES C-20
82°13.1W	39°48.2N	15/ 9/73	16°34'48	87-054	OHIO, ZANESVILLE, LANCASTER, CAMBRIDGE, STRIP MINES, C-15
82°00.2W	41°48.2N	5/ 8/73	15°02'41	83-154	OHIO, ONTARIO, CLEVELAND, LAKE ERIE, CHATHAM
82°31.6W	42°01.9N	5/ 8/73	15°02'34	22-186	MICHIGAN, OHIO, ONTARIO, DETROIT, TOLEDO, CHATHAM
82°55.9W	42°14.1N	5/ 8/73	15°02'28	83-152	MICHIGAN, ONTARIO, DETROIT, WINDSOR, LAKE ERIE, PEELE I., C-10
82°28.3W	42°01.0N	5/ 8/73	15°02'34	83-153	MICHIGAN, ONTARIO, OHIO, LAKE ERIE, PEELE I.
82°59.6W	43°55.9N	13/ 9/73	18°02'43	87-026	MICHIGAN, SAGINAW BAY, LAKE HURON, C-90
82°53.6W	43°46.3N	18/ 9/73	16°01'12	88-232	MICH., LAKE HURON, BAD AXE, PORT AUSTIN, C-20
82°26.6W	45°14.5N	19/ 5/73	20°10'09	46-225	ONTARIO C-97
82°35.8W	45°55.7N	7/ 9/73	20°48'06	86-113	ONTARIO, MANITOULIN I., N. CHANNEL, C-30
82°40.5W	45°19.9N	19/ 9/73	20°10'06	88-256	LAKE HURON, C-100
82°09.1W	45°09.2N	19/ 9/73	20°10'13	88-257	LAKE HURON, C-98
82°14.0W	46°03.0N	7/ 5/73	20°48'10	34-307	ONTARIO, LAKE HURON, NORTH CHANNEL, MANITOULIN I C-50
82°04.2W	46°04.9N	7/ 5/73	20°48'12	86-114	ONTARIO, MANITOULIN I., N. CHANNEL, GORE BAY, C-60
82°08.8W	47°22.9N	6/ 9/73	21°32'00	34-267	ONTARIO, MATTAGAMI LAKE, RAMSEY LAKE C-90
82°14.4W	47°08.1N	16/ 9/73	17°25'12	88-130	MICHIGAN, ESCANABA, GREEN BAY, LAKE MICHIGAN, C-38
82°48.0W	50°10.8N	11/ 5/73	21°08'00	34-364	ONTARIO C-99
81°00.9W	1°15.1N	11/ 8/73	15°40'59	28-083	PACIFIC OCEAN OFF ECUADOR C-98
81°18.4W	7°56.7N	12/ 8/73	14°56'00	28-225	PANAMA, REMEDIOS, SANTIAGO, PEN. DE AZUERO C-60
81°41.1W	8°26.2N	12/ 8/73	14°55'50	28-224	PANAMA, GULF DE CHIRIQUI, REMEDIOS C-40
81°30.3W	13°38.0N	3/ 8/73	18°12'10	22-034	CARIBBEAN SEA, ISLAS DE PROVIDENCIA, C-30
81°06.9W	13°08.9N	3/ 8/73	18°12'20	22-035	CARIBBEAN SEA, ISLAS DE PROVIDENCIA, C-25
81°54.0W	14°07.0N	3/ 8/73	18°12'00	22-033	CARIBBEAN SEA, QUITE SUENO BANK, C-30
81°05.2W	18°46.9N	4/ 8/73	17°27'41	22-132	CARIBBEAN SEA, GRAND CAYMAN, C-10
81°55.6W	19°43.7N	4/ 8/73	17°27'21	22-131	CARIBBEAN SEA, GRAND CAYMAN, C-15
81°48.7W	24°40.0N	5/ 8/73	16°42'54	22-253	FLA. KEYS, KEY WEST, BOAT WAKES, OVERSEAS HWY., C-40
81°21.4W	24°12.7N	5/ 8/73	16°43'04	22-254	FLA. KEYS, GULF STREAM, BOAT WAKES
81°40.3W	34°22.2N	12/ 9/73	17°08'01	40-113	SOUTH CAROLINA, COLUMBIA, LAKE MURRAY
81°05.1W	34°46.0N	12/ 9/73	17°08'11	40-114	SOUTH CAROLINA, NORTH CAROLINA, COLUMBIA, CHARLOTTE C-15
81°28.9W	34°07.6N	17/ 9/73	15°06'32	46-106	S. CAROLINA, COLUMBIA, BROAD RIV., WATEREE POND C-15
81°38.8W	34°22.7N	12/ 9/73	17°08'01	86-286	S.C., LAKE MURRAY, UNION, NEWBERRY
81°16.4W	34°39.2N	12/ 9/73	17°08'08	86-287	S.C., BRAC R., ROCK HILL CHESTER
81°30.6W	34°07.2N	17/ 9/73	15°06'31	88-147	S.C., COLUMBIA, BROAD R., LAKE MURRAY, C-12
81°49.0W	35°32.6N	20/ 9/73	21°05'07	88-351	N.C., S.C., HICKORY, GASTONIA, GAFFNEY, C-20
81°26.3W	35°17.0N	20/ 9/73	21°05'14	88-352	N.C., S.C., CHARLOTTE, HICKORY, ROCK HILL, CATAWBA R., C-15
81°03.9W	35°01.3N	20/ 9/73	21°05'20	88-353	N.C., S.C., CHARLOTTE, ROCK HILL, CATAWBA R., C-20
81°39.2W	37°17.3N	16/ 9/73	15°50'46	46-022	VA., WEST VA., BLUEFIELD, BECKLEY, PULASKI C-10
81°02.2W	37°40.3N	16/ 9/73	15°50'56	46-023	VA., WEST VA., BLACKSBURG, NEW RIVER, BECKLEY C-15
81°19.7W	37°11.3N	21/ 9/73	13°45'14	87-287	VA., W. VA., ALLEGHENY PLATEAU, C-90
81°46.7W	37°13.1N	16/ 9/73	15°50'44	88-055	W. VA., VA., BLUEFIELD, STRIP MINES, RICHLANDS
81°22.7W	37°28.5N	16/ 9/73	15°50'51	88-056	VA., W. VA., BLUEFIELD, PRINCETON, BECKLEY, STRIP MINES, C-15
81°04.9W	38°58.1N	9/ 8/73	13°46'21	28-022	WEST VA., OHIO, KENTUCKY, OHIO RIV., CHARLESTON, HAZY
81°43.1W	39°19.9N	9/ 8/73	13°46'11	28-021	OHIO, KENTUCKY, WEST VA., HUNTINGTON, ASHLAND C-20
81°16.1W	40°18.7N	15/ 9/73	16°35'03	87-055	OHIO, W. VA., OHIO R., CANTON, WEIRTOP, STRIP MINES, C-35
81°49.4W	41°42.2N	5/ 8/73	15°02'44	22-187	ONTARIO, OHIO, LAKE ERIE, CLEVELAND, AKRON
81°08.2W	41°22.3N	5/ 8/73	15°02'54	22-188	OHIO, PA., LAKE ERIE, CLEVELAND, YOUNGSTOWN
81°32.9W	41°35.0N	5/ 8/73	15°02'47	83-155	OHIO, CLEVELAND, NASA/LEWIS, LORAIN, AKRON
81°05.5W	41°21.8N	5/ 8/73	15°02'54	83-156	OHIO, CLEVELAND, AKRON, YOUNGSTOWN, SALEM, ALLIANCE
81°44.4W	42°25.1N	14/ 9/73	17°19'00	40-251	ONTARIO, LAKE ERIE, EXETER C-90
81°54.7W	43°21.3N	13/ 9/73	18°02'57	87-027	ONTARIO C-90
81°59.3W	44°06.9N	18/ 5/73	16°01'24	46-205	MICHIGAN, ONTARIO, LAKE HURON, UNDERWOOD

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
81°39.5W	44°58.4N	19/ 9/73	20°10'19	46-226	ONTARIO C-96
81°00.6W	44°29.7N	18/ 9/73	16°01'37	88-233	ONTARIO, GEORGIAN BAY, BRUCE PEN., NOTTAWASAGA BAY, C-60
81°38.2W	44°58.5N	19/ 9/73	20°10'19	88-258	ONTARIO, C-96
81°07.2W	44°47.5N	19/ 9/73	20°10'26	88-259	ONTARIO, C-96
81°21.0W	46°18.0N	7/ 9/73	20°48'20	34-308	ONTARIO, MANITOULIN I., NORTH CHANNEL C-80
81°32.2W	46°15.0N	7/ 9/73	20°48'19	86-115	ONTARIO, MANITOULIN I., N. CHANNEL, SUDBURY, C-90
81°00.3W	46°24.4N	7/ 9/73	20°48'25	86-116	ONTARIO, SUDBURY, C-95
81°47.7W	47°28.7N	6/ 9/73	21°32'04	86-044	ONTARIO, GOGAMA, C-60
81°59.3W	47°12.0N	16/ 9/73	17°29'15	88-131	MICHIGAN, LAKE MICHIGAN, BIG BAY DE NOC, BEAVER I., C-60
81°44.8W	47°16.0N	16/ 9/73	17°29'17	88-132	MICHIGAN, LAKE MICHIGAN, BEAVER I., MANISTIQUE
81°17.1W	48°25.8N	15/ 9/73	18°13'13	40-351	ONTARIO, C-99
81°04.5W	48°27.6N	15/ 9/73	18°13'15	87-131	QUEBEC, C-100
81°50.0W	50°11.3N	11/ 9/73	21°08'09	34-365	ONTARIO C-99
80°16.4W	0°15.6N	11/ 8/73	15°41'19	28-084	ECUADOR, C-100
80°31.9W	6°57.7N	12/ 8/73	14°56'20	28-227	PANAMA, PEN. DE AZUERO C-50
80°08.8W	6°28.4N	12/ 8/73	14°56'30	28-228	PANAMA, PEN. DE AZUERO C-35
80°13.5W	6°35.5N	12/ 8/73	14°56'28	85-035	PACIFIC OCEAN SOUTH OF PANAMA, C-25
80°55.6W	7°27.1N	12/ 8/73	14°56'10	28-226	PANAMA, PEN. DE AZUERO C-60
80°39.8W	12°36.4N	3/ 8/73	18°12'30	22-036	CARIBBEAN SEA, C-20
80°55.3W	34°32.0N	17/ 9/73	15°06'42	46-107	S. CAROLINA, N. CAROLINA, COLUMBIA, CHARLOTTE C-15
80°20.7W	34°56.5N	17/ 9/73	15°06'52	46-108	S. CAROLINA, N. CAROLINA, CHARLOTTE, PEE DEE RIV. C-20
80°53.7W	34°55.2N	12/ 9/73	17°08'14	86-288	N.C., S.C., CHARLOTTE, CATAWBA P., C-10
80°41.8W	34°42.5N	17/ 9/73	15°06'45	88-148	S.C., N.C., WATeree POND, CATAWBA R., C-18
80°41.5W	34°45.5N	20/ 9/73	21°05'27	88-354	S.C., N.C., ROCK HILL, WATeree POND, CAMDEN, C-20
80°19.4W	34°29.7N	20/ 9/73	21°05'33	88-355	N.C., S.C., HARTSVILLE, FLORENCE, CHERAW, C-15
80°30.0W	35°09.8N	12/ 9/73	17°08'21	40-115	SOUTH CAROLINA, NORTH CAROLINA, CHARLOTTE, PEE DEE RIV. C-25
80°30.9W	35°11.0N	12/ 9/73	17°08'21	86-289	N.C., S.C., CHARLOTTE, C-20
80°08.2W	35°26.8N	12/ 9/73	17°08'28	86-290	N.C., GREAT PEE DEE R., HIGH ROCK LAKE, C-35
80°58.3W	37°25.5N	21/ 9/73	13°49'20	46-293	W. VIRGINIA, VIRGINIA C-95
80°27.3W	37°44.0N	21/ 9/73	13°49'28	87-288	VA., W. VA., C-100
80°58.3W	37°43.5N	16/ 9/73	15°50'57	88-057	VA., W. VA., BECKLEY, NEW R., PRINCETON, STRIP MINES, C-20
80°33.2W	37°59.3N	16/ 9/73	15°51'04	88-058	VA., W. VA., NEW R., GREENBRIER, WHITE SULPHUR SPRINGS, C-18
80°26.0W	38°35.7N	9/ 8/73	13°46'31	28-023	WEST VA., ALLEGHENY MTS., CHARLESTON, BECKLEY, HAZY
80°24.7W	38°03.7N	16/ 9/73	15°51'06	46-024	VA., WEST VA., NEW RIVER, COVINGTON C-20
80°08.5W	38°14.1N	16/ 9/73	15°51'11	88-059	W. VA., VA., STRIP MINES, GREENBRIER R., C-20
80°49.4W	40°31.9N	15/ 9/73	16°35'09	40-311	OHIO, PENN., WEST VA., PITTSBURGH, OHIO RIV., WHEELING C-40
80°11.5W	40°55.0N	5/ 8/73	15°03'07	83-158	OHIO, PA., PITTSBURGH, YOUNGSTOWN, OHIO R., BUTLER
80°18.4W	40°48.0N	15/ 9/73	16°35'17	87-056	OHIO, PA., YOUNGSTOWN, PITTSBURGH, OHIO R., ALLEGHENY R., C-35
80°27.0W	41°02.2N	5/ 8/73	15°03'04	22-189	OHIO, PA., AKRON, YOUNGSTOWN, PITTSBURGH
80°38.2W	41°08.5N	5/ 8/73	15°03'01	83-157	OHIO, PA., YOUNGSTOWN, NEW CASTLE, OHIO R.
80°18.1W	43°02.7N	14/ 9/73	17°19'20	40-252	ONTARIO, LAKE ONTARIO, NEW YORK C-90
80°49.8W	43°46.3N	13/ 9/73	18°03'12	87-028	ONTARIO C-90
80°53.0W	44°41.7N	19/ 9/73	20°10'25	46-227	ONTARIO C-97
80°07.2W	44°24.9N	19/ 9/73	20°10'39	46-228	ONTARIO C-98
80°47.7W	44°34.3N	18/ 9/73	16°01'40	88-234	ONTARIO, NOTTAWASAGA BAY, VICTORIA HARBOR, PARRY I., C-45
80°34.9W	44°39.1N	18/ 9/73	16°01'43	88-235	ONTARIO, NOTTAWASAGA BAY, ORILLIA
80°36.5W	44°36.4N	19/ 9/73	20°10'33	88-260	ONTARIO, C-99
80°06.2W	44°25.2N	19/ 9/73	20°10'39	88-261	ONTARIO, C-100
80°28.0W	46°33.6N	7/ 9/73	20°48'32	86-117	ONTARIO, SUDBURY, STURGEON FALLS, C-53
80°25.7W	47°46.9N	6/ 9/73	21°32'20	34-268	ONTARIO, KIRKLAND LAKE, MONTREAL RIV. C-80
80°32.9W	47°46.1N	6/ 9/73	21°32'19	86-045	ONTARIO, MATTAGAMI LAKE, ELK LAKE, C-50
80°49.7W	50°11.6N	11/ 9/73	21°08'19	34-366	ONTARIO C-99
79°31.6W	0°44.4S	11/ 8/73	15°41'39	28-085	ECUADOR, QUITO, RIO GUAYLABAMBA, C-80
79°02.6W	4°58.4N	12/ 8/73	14°57'00	28-231	PACIFIC OCEAN, C-40
79°00.3W	4°56.6N	12/ 8/73	14°57'01	85-040	PACIFIC OCEAN SOUTH OF PANAMA, C-50
79°47.1W	5°58.3N	12/ 8/73	14°56'40	28-229	PACIFIC OCEAN, C-30
79°25.3W	5°27.9N	12/ 8/73	14°56'50	28-230	PACIFIC OCEAN, C-35
79°44.5W	5°55.8N	12/ 8/73	14°56'41	85-037	PACIFIC OCEAN SOUTH OF PANAMA, C-40
79°30.3W	5°35.7N	12/ 8/73	14°56'47	85-038	PACIFIC OCEAN SOUTH OF PANAMA, C-40
79°15.5W	5°15.9N	12/ 8/73	14°56'54	85-039	PACIFIC OCEAN SOUTH OF PANAMA, C-50
79°59.0W	6°15.9N	12/ 8/73	14°56'34	85-036	PACIFIC OCEAN SOUTH OF PANAMA, C-30
79°08.5W	10°42.4N	3/ 8/73	18°13'10	22-040	CARIBBEAN SEA, C-40
79°23.4W	11°05.3N	3/ 8/73	18°12'40	22-037	CARIBBEAN SEA, C-20
79°56.0W	11°36.4N	3/ 8/73	18°12'50	22-038	CARIBBEAN SEA, C-20
79°31.9W	11°11.2N	3/ 8/73	18°13'00	22-039	CARIBBEAN SEA, C-30
79°35.6W	33°57.9N	20/ 9/73	21°05'46	88-357	S.C., FLORENCE, GREAT PEE DEE R., C-15
79°14.5W	33°42.9N	20/ 9/73	21°05'53	88-358	S.C., MYRTLE BEACH, CRESCENT BEACH, GEORGETOWN, C-15

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
79°57.3W	34°13.8N	20/ 9/73	21°05'40	88-356	S.C., FLORENCE, HARTSVILLE, LAKE CITY, C-12
79°54.9W	35°33.6N	12/ 9/73	17°08'31	40-116	NORTH CAROLINA, GREENSBORO, WINSTON SALEM, LEXINGTON C-30
79°19.8W	35°57.5N	12/ 9/73	17°08'41	40-117	NORTH CAROLINA, RALEIGH, DURHAM, GREENSBORO C-30
79°48.1W	35°19.3N	17/ 9/73	15°07'01	46-109	N. CAROLINA, S. CAROLINA, PEE DEE R., FAYETTEVILLE, GREENSBORO C-25
79°11.8W	35°44.3N	17/ 9/73	15°07'12	46-110	N. CAROLINA, FAYETTEVILLE, GREENSBORO, RALEIGH, DURHAM C-25
79°45.1W	35°42.7N	12/ 9/73	17°08'34	86-291	N.C., GREENSBORO, BURLINGTON, ASHEBORO, C-35
79°21.7W	35°58.3N	12/ 9/73	17°08'41	86-292	N.C., RALEIGH, DURHAM, GREENSBORO, C-30
79°52.0W	35°17.3N	17/ 9/73	15°07'00	88-149	N.C., SOUTHERN PINES, SANFORD, FT. BRAGG, C-25
79°01.9W	35°51.7N	17/ 9/73	15°07'14	88-150	N.C., RALEIGH, DURHAM, CHAPEL HILL, C-30
79°11.2W	37°51.2N	9/ 8/73	13°46'51	28-025	WEST VA., VIRGINIA, ALLEGHENY MTS., BLUE RIDGE MTS., HAZY
79°48.4W	38°13.6N	9/ 8/73	13°46'41	28-024	WEST VA., VIRGINIA, ALLEGHENY FRONT, SHENANDOAH VALLEY C-20
79°47.1W	38°26.0N	16/ 9/73	15°51'16	46-025	VA., WEST VA., SHENANDOAH VALLEY, JENKINS C-15
79°08.9W	38°47.9N	16/ 9/73	15°51'26	46-026	VA., WEST VA., SHENANDOAH VALLEY, BLUE RIDGE MTS.
79°43.8W	38°11.1N	21/ 9/73	13°49'40	46-294	W. VIRGINIA, VIRGINIA C-100
79°33.9W	38°16.3N	21/ 9/73	13°49'42	87-289	VA., W. VA., C-100
79°43.5W	38°28.9N	16/ 9/73	15°51'17	88-060	W. VA., VA., STRIP MINES, SHENANDOAH MTS., ELKINS, C-12
79°18.4W	38°43.6N	16/ 9/73	15°51'24	88-061	VA., W. VA., STRIP MINES, SHENANDOAH VALLEY, HARRISBURG
79°46.1W	40°41.4N	5/ 8/73	15°03'14	22-190	PA., OHIO, W. VA., PITTSBURGH, OHIO P.
79°05.9W	40°20.7N	5/ 8/73	15°03'24	22-191	PA., ALLEGHENY, MONONGAHELA, OHIO RIVERS
79°44.5W	40°41.4N	5/ 8/73	15°03'14	83-159	PA., PITTSBURGH, ALLEGHENY R., BUTLEP
79°18.1W	40°27.8N	5/ 8/73	15°03'20	83-160	PA., PITTSBURGH, JOHNSTOWN, GREENSBURG
79°28.0W	41°13.2N	15/ 9/73	16°35'29	40-312	PENN., OHIO, ALLEGHENY RIV., OIL CITY C-40
79°18.4W	41°18.4N	15/ 9/73	16°35'31	87-057	PA., ALLEGHENY RES., CLARION, OIL CITY, ALLEGHENY R., C-25
79°13.1W	43°41.4N	9/ 9/73	19°21'01	40-016	ONTARIO-NEW YORK, TORONTO, NIAGARA FALLS, WELLAND CANAL, LAKE ONTARIO
79°33.6W	43°21.5N	14/ 9/73	17°19'30	40-253	ONTARIO, NEW YORK, LAKE ONTARIO C-95
79°20.7W	44°07.4N	19/ 9/73	20°10'49	46-229	ONTARIO, TORONTO, LAKE ONTARIO C-85
79°44.9W	44°10.9N	13/ 9/73	20°10'26	87-029	ONTARIO C-90
79°35.9W	44°13.9N	19/ 9/73	20°10'46	88-262	ONTARIO, C-100
79°05.9W	44°02.3N	19/ 9/73	20°10'52	88-263	ONTARIO, LAKE ONTARIO, OSHAWA, C-80
79°40.0W	46°44.0N	7/ 9/73	20°48'30	34-309	ONTARIO, SUDBURY C-90
79°55.3W	46°43.0N	7/ 9/73	20°48'38	86-118	ONTARIO, STURGEON FALLS, C-96
79°22.7W	46°51.6N	7/ 9/73	20°48'45	86-119	ONTARIO, C-100
79°29.0W	48°45.4N	15/ 9/73	18°13'33	40-352	ONTARIO, C-100
79°17.4W	48°02.8N	6/ 9/73	21°32'33	86-046	ONTARIO, QUEBEC, LAKE TIMISKAMING, C-85
79°46.8W	48°41.7N	15/ 9/73	18°13'30	87-132	QUEBEC, C-100
79°45.8W	50°11.3N	11/ 9/73	21°08'30	34-367	ONTARIO C-99
78°02.3W	2°43.4S	11/ 8/73	15°42'19	28-087	ECUADOR, PERU, RIO SANTIAGO, RIO MORONA C-80
78°47.1W	1°43.9S	11/ 8/73	15°41'55	28-086	ECUADOR, RIO PASTAZA, LATAGUNGA, AMBATO C-80
78°17.8W	3°59.1N	12/ 8/73	14°57'20	28-233	PACIFIC OCEAN, C-60
78°15.8W	3°57.6N	12/ 8/73	14°57'20	85-043	PACIFIC OCEAN SOUTH OF PANAMA, UNIQUE WATER INTERFACE, C-75
78°01.0W	3°38.0N	12/ 8/73	14°57'27	85-044	PACIFIC OCEAN SOUTH OF PANAMA, C-85
78°40.2W	4°28.8N	12/ 8/73	14°57'10	28-232	PACIFIC OCEAN, C-45
78°45.5W	4°37.0N	12/ 8/73	14°57'07	85-041	PACIFIC OCEAN SOUTH OF PANAMA, C-55
78°30.6W	4°17.2N	12/ 8/73	14°57'14	85-042	PACIFIC OCEAN SOUTH OF PANAMA, UNIQUE WATER INTERFACE, C-60
78°23.7W	9°42.9N	3/ 8/73	18°13'30	22-042	CARIBBEAN SEA, PANAMA, DARIEN, C-75
78°00.3W	9°13.2N	3/ 8/73	18°13'40	22-043	PANAMA, GULF DE SAN MIGUEL, RIO TUIRA, C-80
78°46.1W	10°12.9N	3/ 8/73	18°13'20	22-041	CARIBBEAN SEA, PANAMA, DARIEN, C-60
78°09.5W	32°53.3N	20/ 9/73	21°06'12	88-361	ATLANTIC OCEAN C-10
78°52.4W	33°25.7N	20/ 9/73	21°05'59	88-359	S.C., MYRTLE BEACH, CRESCENT BEACH, GEORGETOWN, C-10
78°31.0W	33°09.4N	20/ 9/73	21°06'06	88-360	ATLANTIC OCEAN
78°44.7W	36°21.3N	12/ 9/73	17°08'51	40-118	NORTH CAROLINA, VIRGINIA, DANVILLE, RALEIGH, DURHAM C-25
78°09.6W	36°44.3N	12/ 9/73	17°09'01	40-119	NORTH CAROLINA, VIRGINIA, KERR RES., LAKE GASTON C-35
78°36.6W	36°08.0N	17/ 9/73	15°07'22	46-111	N. CAROLINA, VIRGINIA, RALEIGH, DURHAM, HAZY C-30
78°00.3W	36°31.8N	17/ 9/73	15°07'32	46-112	N. CAROLINA, VIRGINIA, WILSON, ROCKY MT., HAZY C-60
78°58.0W	36°15.0N	12/ 9/73	17°08'47	86-293	N.C., VA., RALEIGH, DURHAM, CHAPEL HILL, C-35
78°34.6W	36°30.0N	12/ 9/73	17°08'54	86-294	N.C., VA., KERR RES., ROANOKE R., HENDERSON, C-35
78°10.9W	36°45.0N	12/ 9/73	17°09'01	86-295	VA., N.C., KERR RES., LAKE GASTON, C-35
78°10.5W	36°25.7N	17/ 9/73	15°07'29	88-151	N.C., VA., (HAZY), ROANOKE R., ROANOKE RAPIDS, C-40
78°34.6W	37°28.5N	9/ 8/73	13°47'01	28-026	VIRGINIA, BLUE RIDGE, CHARLOTTESVILLE, LYNCHBURG, HAZY
78°27.0W	38°55.0N	21/ 9/73	13°50'00	46-295	MARYLAND, W. VIRGINIA, VIRGINIA C-100
78°37.6W	38°48.2N	21/ 9/73	13°49'56	87-290	VA., W. VA., C-100
78°53.4W	38°57.5N	16/ 9/73	15°51'30	88-062	VA., W. VA., SHENANDOAH VALLEY, FRONT ROYAL, PETERSBURG, SHENANDOAH MTS
78°26.0W	39°59.7N	5/ 8/73	15°03'34	22-192	PA., ALTOONA, JOHNSTOWN, ALLEGHENY MTS.
78°30.3W	39°10.1N	16/ 9/73	15°51'36	46-027	VA., WEST VA., MD., POTOMAC RIV., DULLES AIRPORT, SHENANDOAH VALLEY
78°27.7W	39°12.6N	16/ 9/73	15°51'37	88-063	VA., W. VA., MD., SHENANDOAH R., POTOMAC R., WINCHESTER
78°02.0W	39°26.8N	16/ 9/73	15°51'44	88-064	VA., W. VA., PA., POTOMAC R., HARPERS FERRY, ANTIETAM, HAGERSTOWN
78°51.4W	40°13.9N	5/ 8/73	15°03'27	83-161	PA., MD., ALTOONA, JOHNSTOWN, INDIANA
78°25.4W	40°00.1N	5/ 8/73	15°03'34	83-162	PA., MD., W. VA., CUMBERLAND, ALTOONA, ALLEGHENY MTS.
78°04.9W	41°52.5N	15/ 9/73	16°35'49	40-313	PENN., NEW YORK, ALLEGHENY RIV., OLEAN, WARREN C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
78°49.4W	43°39.4N	14/ 9/73	17°19'40	40-254	ONTARIO, LAKE ONTARIO, TRENTON C-50
78°03.9W	43°57.5N	14/ 5/73	17°19'50	40-255	ONTARIO, LAKE ONTARIO, C-95
78°35.6W	43°49.8N	19/ 9/73	20°10'59	46-230	ONTARIO, NEW YORK, LAKE ONTARIO, TORONTO C-70
78°40.2W	43°55.2N	9/ 9/73	19°21'08	85-295	ONTARIO, LAKE ONTARIO, TORONTO, OSHAWA
78°35.9W	43°50.6N	19/ 9/73	20°10'59	88-264	ONTARIO, N.Y., LAKE ONTARIO, OSHAWA, ERIE CANAL, C-50
76°06.2W	43°38.8N	19/ 9/73	20°11'06	88-265	ONTARIO, N.Y., ROCHESTER, LAKE ONTARIO, COROLRG, C-40
78°10.2W	44°06.9N	9/ 9/73	19°21'15	85-296	ONTARIO, LAKE ONTARIO, TRENTON, PORT HOPE, PETERBOROUGH
78°50.1W	47°00.3N	7/ 5/73	20°48'51	86-120	ONTARIO, C-100
78°16.8W	47°08.9N	7/ 5/73	20°48'58	86-121	ONTARIO, C-100
78°41.2W	48°09.7N	6/ 9/73	21°32'40	34-269	ONTARIO-QUEBEC, C-90
78°28.3W	48°54.7N	15/ 9/73	18°13'44	87-133	QUEBEC, C-100
78°42.2W	50°10.5N	11/ 9/73	21°08'40	34-368	ONTARIO C-98
77°28.7W	45°25.8S	1/ 9/73	15°10'52	28-298	CLOUDS OVER PACIFIC OCEAN, C-95
77°40.2W	3°13.1S	11/ 8/73	15°42'29	28-088	PERU, ECUADOR, RIO SANTIAGO, RIO MORONA C-80
77°17.8W	3°42.9S	11/ 8/73	15°42'39	28-089	PERU, RIC MARANON, RIO PASTAZA C-80
77°21.1W	3°37.1S	11/ 8/73	15°42'37	84-039	ECUADOR, PERU, RIO MORONA, C-90
77°06.6W	3°56.9S	11/ 8/73	15°42'44	84-040	PERU, RIC MORONA, RIO PASTAZA, C-50
77°33.0W	2°59.6N	12/ 8/73	14°57'40	28-235	COLOMBIA, C-85
77°10.9W	2°29.8N	12/ 8/73	14°57'50	28-236	COLOMBIA, POPAYAN, C-70
77°31.6W	2°58.6N	12/ 8/73	14°57'40	85-046	COLOMBIA, COAST WEST OF CALI, C-95
77°16.8W	2°39.0N	12/ 8/73	14°57'47	85-047	COLOMBIA, CORDILLERA OCCIDENTAL, C-60
77°02.0W	2°19.4N	12/ 8/73	14°57'53	85-048	COLOMBIA, CALI (UNDER CLOUDS), C-45
77°55.4W	3°29.3N	12/ 8/73	14°57'30	28-234	PACIFIC OCEAN, COAST OF COLOMBIA, C-85
77°46.5W	3°18.4N	12/ 8/73	14°57'34	85-045	COLOMBIA, COAST WEST OF CALI, C-95
77°37.2W	8°43.9N	3/ 8/73	18°13'50	22-044	PANAMA, GULF DE SAN MIGUEL, RIO TUIFA, C-80
77°14.5W	8°14.4N	3/ 8/73	18°14'00	22-045	PANAMA, COLOMBIA, DARIEN AREA, GULF OF URABA, C-75
77°48.4W	32°36.8N	20/ 9/73	21°06'15	88-362	ATLANTIC OCEAN C-15
77°27.4W	32°20.5N	20/ 9/73	21°06'25	88-363	ATLANTIC OCEAN C-30
77°06.6W	32°04.0N	20/ 9/73	21°06'32	88-364	ATLANTIC OCEAN C-35
77°22.1W	36°42.5N	9/ 8/73	13°47'21	28-028	VIRGINIA, RICHMOND, PETERSBURG, KERP RES., HAZY, C-20
77°23.7W	36°55.3N	17/ 9/73	15°07'42	46-113	VIRGINIA, JAMES RIV., HAZY C-75
77°18.8W	36°59.3N	17/ 9/73	15°07'43	88-152	VA., N.C., (HAZY), JAMES R., C-80
77°58.0W	37°05.6N	9/ 8/73	13°47'11	28-027	VIRGINIA, RICHMOND, JAMES RIV., BLACKSTONE, HAZY
77°32.5W	37°07.2N	12/ 9/73	17°09'11	40-120	VIRGINIA, RICHMOND, JAMESTOWNS, JAMES RIV., NEWPORT NEWS C-35
77°47.1W	37°00.3N	12/ 5/73	17°05'07	86-296	VA., PETERSBURG, BLACKSTONE, EMPORIA, C-35
77°23.1W	37°15.6N	12/ 9/73	17°09'14	86-297	VA., RICHMOND, PETERSBURG, JAMESTOWN, HOPEWELL, C-35
77°46.8W	39°38.5N	5/ 8/73	15°03'44	22-193	PA., MD., VA., W.VA., POTOMAC R.
77°07.9W	39°16.9N	5/ 8/73	15°03'54	22-194	PA., MD., W.VA., VA., D.C., WASHINGTON, BALTIMORE, YOR
77°51.7W	39°31.9N	16/ 9/73	15°51'46	46-028	VA., WEST VA., PA., POTOMAC R., YORK, GETTYSBURG, HARPERS FERRY
77°12.2W	39°53.0N	16/ 9/73	15°51'56	46-029	VA., WEST VA., PA., HARRISBURG, SUSQUEHANNA RIV., HAGERSTOWN
77°48.4W	39°16.7N	21/ 9/73	13°50'10	46-296	MARYLAND, VIRGINIA, W. VIRGINIA, PA. C-100
77°09.6W	39°38.3N	21/ 9/73	13°50'20	46-297	MARYLAND, PA. C-95
77°59.3W	39°46.1N	5/ 8/73	15°03'40	83-163	PA., MD., W. VA., VA., POTOMAC R., HAGERSTOWN, CHAMBERSBURG
77°33.6W	39°31.7N	5/ 8/73	15°03'47	83-164	PA., MD., W. VA., VA., GETTYSBURG, FREDRICK, HARPERS FERRY
77°07.9W	39°17.6N	5/ 8/73	15°03'53	83-165	MD., D.C., VA., WASHINGTON, BALTIMORE, POTOMAC R., FREDRICK
77°52.4W	39°13.8N	21/ 9/73	13°50'09	87-291	MD., W. VA., MD., C-100
77°26.4W	39°28.3N	21/ 9/73	13°50'15	87-292	VA., W. VA., MD., C-100
77°00.0W	39°42.8N	21/ 9/73	13°50'22	87-293	MD., PA., C-100
77°36.3W	39°41.0N	16/ 9/73	15°51'50	88-065	VA., W. VA., PA., POTOMAC R., FREDRICK, GETTYSBURG, CHAMBERSBURG
77°10.5W	39°54.6N	16/ 9/73	15°51'57	88-066	MD., PA., GETTYSBURG, SUSQUEHANNA R., HARRISBURG, N.Y.
77°58.7W	42°09.9N	10/ 9/73	18°37'19	85-342	PA., N.Y., ALLEGHENY RES., WARREN, ST. MARY'S
77°30.3W	42°22.6N	10/ 9/73	18°37'25	85-343	N.Y., PA., OLEAN, ALLEGHENY R., BRADFORD, SALAMANCA
77°02.0W	42°35.3N	10/ 9/73	18°37'32	85-344	N.Y., PA., FINGER LAKES, ELMIRA, CHEMUNG R.
77°51.1W	43°31.8N	19/ 9/73	20°11'09	46-231	ONTARIO, NEW YORK, LAKE ONTARIO, TRENTON, ROCHESTER C-60
77°06.9W	43°13.7N	19/ 9/73	20°11'19	46-232	ONTARIO, NEW YORK, SYRACUSE, FINGER LAKES C-40
77°36.9W	43°26.7N	19/ 9/73	20°11'12	88-266	N.Y., ONTARIO, ROCHESTER, LAKE ONTARIO
77°07.6W	43°14.7N	19/ 9/73	20°11'19	88-267	N.Y., LAKE ONTARIO, OSWEGO, LAKE CAYUGA, LAKE SENECA, C-45
77°42.5W	44°16.8N	9/ 9/73	19°21'21	40-017	ONTARIO, LAKE ONTARIO, PETERBOROUGH, BELLEVILLE, PICTON
77°18.5W	44°14.9N	14/ 9/73	17°20'00	40-256	ONTARIO, QUEBEC, NEW YORK C-95
77°39.9W	44°18.3N	9/ 9/73	19°21'21	85-297	ONTARIO, LAKE ONTARIO, BELLEVILLE, PICTON
77°09.6W	44°30.0N	9/ 9/73	19°21'28	85-298	ONTARIO, LAKE ONTARIO, KINGSTON, TRENTON, PICTON
77°55.0W	47°13.0N	7/ 9/73	20°48'40	34-310	ONTARIO, C-100
77°30.0W	47°20.0N	7/ 9/73	20°49'04	86-122	ONTARIO, C-100
77°45.0W	48°15.0N	6/ 9/73	21°32'47	86-047	QUEBEC C-100
77°39.5W	49°02.9N	15/ 9/73	18°13'53	40-353	ONTARIO, QUEBEC, C-100
77°09.2W	49°06.9N	15/ 9/73	18°13'59	87-134	QUEBEC, C-100
77°38.2W	50°09.0N	11/ 9/73	21°08'50	34-369	ONTARIO C-97
77°03.0W	50°06.4N	11/ 9/73	21°09'00	34-370	ONTARIO-QUEBEC C-97
76°53.4W	46°42.9S	2/ 9/73	14°27'11	34-001	PACIFIC OCEAN OFF CHILE C-35
76°03.6W	46°28.9S	2/ 9/73	14°27'21	34-002	CHILE, ARCHIPIELAGO DE LOS CHONOS C-50
76°11.9W	46°30.6S	2/ 9/73	14°27'19	84-233	CHILE PENINSULA TAITAO, C-40
76°40.2W	45°09.3S	1/ 9/73	15°11'02	28-299	CLOUDS OVER PACIFIC OCEAN, C-98

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
76°56.7W	45°14.4S	1/ 9/73	15°10'58	84-160	PACIFIC OCEAN, C-100
76°26.1W	45°04.1S	1/ 9/73	15°11'05	84-161	PACIFIC OCEAN C-100
76°10.2W	5°12.4S	11/ 8/73	15°43'09	28-092	PERU, RIO HUALLAGA, RIO MARANON, C-75
76°07.3W	5°15.3S	11/ 8/73	15°43'10	84-044	PERU, RIO HUALLAGA, C-70
76°55.4W	4°12.5S	11/ 8/73	15°42'49	28-090	PERU, RIO MARANON, RIO PASTAZA C-75
76°32.6W	4°42.7S	11/ 8/73	15°42'59	28-091	PERU, RIO MARANON, RIO HUALLAGA, C-75
76°51.8W	4°16.5S	11/ 8/73	15°42'50	84-041	PERU, RIO PASTAZA, C-80
76°36.9W	4°36.1S	11/ 8/73	15°42'57	84-042	PERU, RIO PASTAZA, C-80
76°22.1W	4°55.7S	11/ 8/73	15°43'04	84-043	PERU, RIO MORANON, C-75
76°25.7W	1°30.0N	12/ 8/73	14°58'10	28-238	COLOMBIA, CORDILLERA, CENTRAL FLORENCIA, C-65
76°03.6W	1°00.1N	12/ 8/73	14°58'20	28-239	COLOMBIA, ECUADOR, RIO PUTUMAYO, RIO PUTUMAYO, C-70
76°47.5W	1°59.6N	12/ 8/73	14°58'00	85-049	COLOMBIA, CORDILLERA OCCIDENTAL, C-65
76°32.6W	1°40.0N	12/ 8/73	14°58'07	85-050	COLOMBIA, RIO PAEZ, C-80
76°17.8W	1°20.4N	12/ 8/73	14°58'13	85-051	COLOMBIA, GAPZON, RIO MAGDALENA, C-80
76°03.3W	1°00.8N	12/ 8/73	14°58'20	85-052	COLOMBIA, RIO CAQUETA, RIO CAGUAN, C-80
76°48.5W	2°00.1N	12/ 8/73	14°58'00	28-237	COLOMBIA, POPAYAN, C-70
76°06.3W	6°45.2N	3/ 8/73	18°14'30	22-047	COLOMBIA, C-90
76°51.4W	7°44.4N	3/ 8/73	18°14'10	22-046	PANAMA, COLOMBIA, GULF OF URABA, ATAPATO R., C-80
76°45.8W	31°47.5N	20/ 5/73	21°06'38	88-365	ATLANTIC OCEAN C-30
76°25.4W	31°30.9N	20/ 5/73	21°06'45	88-366	ATLANTIC OCEAN C-20
76°04.6W	31°14.2N	20/ 5/73	21°06'51	88-367	ATLANTIC OCEAN C-25
76°11.2W	35°55.7N	9/ 8/73	13°47'41	28-030	VIRGINIA, NORTH CAROLINA, NORFOLK, ELIZABETH CITY, OUTER BANKS C-30
76°46.5W	36°19.2N	9/ 8/73	13°47'31	28-029	VIRGINIA, NORTH CAROLINA, NORFOLK, ALBEMARLE SOUND, C-30
76°55.5W	37°30.2N	12/ 9/73	17°09'21	40-121	VIRGINIA, MARYLAND, LANGLEY RESEARCH CENTER, CHESAPEAKE BAY C-30
76°18.4W	37°53.1N	12/ 9/73	17°09'31	40-122	VIRGINIA, MARYLAND, CHESAPEAKE BAY, WALCOPPS ISLAND C-20
76°48.1W	37°17.9N	17/ 9/73	15°07'52	46-114	VIRGINIA, CHESAPEAKE BAY, CAPE CHARLES, HAZY C-85
76°10.9W	37°41.2N	17/ 9/73	15°08'02	46-115	VIRGINIA, MARYLAND, CHESAPEAKE BAY, HAZY C-75
76°58.7W	37°30.8N	12/ 9/73	17°05'20	86-298	VA., RICHMOND, JAMES R., WILLIAMSBURG, YORKTOWN, C-35
76°34.3W	37°45.8N	12/ 9/73	17°09'27	86-299	MD., VA., CHESAPEAKE BAY, POTOMAC R., C-30
76°26.1W	37°32.6N	17/ 9/73	15°07'57	88-153	VA., CHESAPEAKE BAY, HAMPTON ROADS, NORFOLK, CAPE CHARLES, C-70
76°29.3W	38°54.8N	5/ 8/73	15°04'04	22-195	MD., DEL., VA., D.C., WASHINGTON, BALTIMORE, ANNAPOLIS, C-15
76°17.2W	38°48.7N	5/ 8/73	15°04'07	83-167	MD., D.C., DEL., WASHINGTON, BALTIMORE, ANNAPOLIS, CHESAPEAKE P., C-20
76°30.3W	39°59.7N	21/ 9/73	13°50'30	46-298	PA., N.J., DEL., PHILADELPHIA, POCONO MTS. C-70
76°03.2W	39°03.2N	5/ 8/73	15°04'00	83-166	MD., D.C., VA., WASHINGTON, BALTIMORE, CHESAPEAKE BAY, C-10
76°29.7W	39°59.3N	21/ 9/73	13°50'30	87-294	PA., BLUE MTS., C-90
76°32.6W	40°14.1N	16/ 9/73	15°52'06	46-030	MD., PA., LANCASTER, READING, YORK, SUSQUEHANNA RIV., LEBANON
76°03.0W	40°13.4N	21/ 9/73	13°50'36	87-295	PA., POTTSTOWN, POTTSVILLE, BLUE MT., MINE TAILINGS, C-65
76°44.2W	40°08.6N	16/ 9/73	15°52'03	88-067	PA., HARRISBURG, SUSQUEHANNA R., YORK, HERSEY
76°17.8W	40°22.5N	16/ 9/73	15°52'10	88-068	PA., HARRISBURG, READING, POTTSVILLE, LEBANON
76°27.0W	42°50.1N	10/ 9/73	18°37'40	40-036	NEW YORK, LAKE ONTARIO, FINGER LAKES, SYRACUSE
76°39.6W	42°31.5N	15/ 9/73	16°36'09	40-314	PENN., NEW YORK, CHUNG RIV., FINGER LAKES C-70
76°22.4W	42°54.8N	19/ 9/73	20°11'29	46-233	NEW YORK, LAKE ONTARIO, FINGER LAKES, SYRACUSE C-35
76°33.6W	42°48.0N	10/ 9/73	18°37'38	85-345	N.Y., FINGER LAKES, AUBURN, GENEVA, SAMPSON, SYRACUSE
76°09.9W	42°50.0N	19/ 9/73	20°11'32	88-269	N.Y., SYRACUSE, FINGER LAKES, ONEIDA LAKE, C-20
76°04.6W	43°00.4N	10/ 9/73	18°37'45	85-346	N.Y., SYRACUSE, LAKE ONEIDA, FULTON, FRIE CANAL, C-10
76°38.6W	43°02.3N	19/ 9/73	20°11'25	88-268	N.Y., LAKE ONTARIO, SYRACUSE, OSWEGO, ONEIDA LAKE, FINGER LAKES, C-30
76°09.2W	44°51.1N	9/ 9/73	19°21'41	40-018	ONTARIO-NEW YORK, LAKE ONTARIO, KINGSTON, ST. LAWRENCE RIV. C-40
76°33.0W	44°32.0N	14/ 9/73	17°20'10	40-257	ONTARIO, QUEBEC, NEW YORK C-95
76°39.2W	44°41.1N	9/ 9/73	19°21'34	85-299	ONTARIO, KINGSTON, ST. LAWRENCE R., SMITH FALLS, C-20
76°08.3W	44°52.1N	9/ 9/73	19°21'41	85-300	ONTARIO, NEW YORK, SMITH FALLS, ST. LAWRENCE R., C-40
76°15.0W	47°30.0N	7/ 9/73	20°45'11	86-123	ONTARIO, C-100
76°15.0W	48°40.0N	6/ 9/73	21°33'02	86-048	QUEBEC C-100
76°28.4W	50°04.2N	11/ 9/73	21°09'10	34-371	ONTARIO-QUEBEC C-100
75°14.5W	46°14.4S	2/ 9/73	14°27'31	34-003	CHILE, ARCHIPIELAGO DE LOS CONOS C-45
75°39.3W	46°21.2S	2/ 9/73	14°27'25	84-234	CHILE, PENINSULA TAITAO, FJORDS, FLOATING ICE, C-45
75°07.0W	46°11.6S	2/ 9/73	14°27'32	84-235	CHILE, PENINSULA TAITAO, FLOATING ICE, C-60
75°54.1W	44°53.3S	1/ 9/73	15°11'12	28-300	CLOUDS OVER PACIFIC OCEAN, C-100
75°07.3W	44°36.4S	1/ 9/73	15°11'22	28-301	CLOUDS OVER PACIFIC OCEAN, C-100
75°55.7W	44°53.5S	1/ 9/73	15°11'12	84-162	PACIFIC OCEAN C-100
75°24.7W	44°42.0S	1/ 9/73	15°11'18	84-163	PACIFIC OCEAN C-100
75°25.1W	6°11.7S	11/ 8/73	15°43'29	28-094	PERU, RIO HUALLAGA, RIO UCAYALI (AMAZON), C-75
75°02.7W	6°41.4S	11/ 8/73	15°43'35	28-095	PERU, RIO UCAYALI (AMAZON), C-70
75°22.4W	6°14.2S	11/ 8/73	15°43'30	84-047	PERU, RIO UCAYALI (AMAZON), RIO HUALLAGA, C-30
75°07.6W	6°33.8S	11/ 8/73	15°43'37	84-048	PERU, RIO UCAYALI (AMAZON), C-30
75°47.8W	5°42.0S	11/ 8/73	15°43'19	28-093	PERU, RIO HUALLAGA, RIO UCAYALI (AMAZON), C-75
75°52.4W	5°34.9S	11/ 8/73	15°43'17	84-045	PERU, RIO HUALLAGA, C-40
75°37.3W	5°54.6S	11/ 8/73	15°43'23	84-046	PERU, RIO HUALLAGA, RIO UCAYALI (AMAZON), C-35
75°04.3W	0°17.7S	12/ 8/73	14°58'46	85-056	COLOMBIA, RIO CAQUETA, RIO AQUATICO, C-85
75°41.2W	0°30.5N	12/ 8/73	14°58'30	28-240	COLOMBIA, ECUADOR, PERU, RIO NAPO, RIO PUTUMAYO, C-70

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
75°19.1W	0°00.6N	12/ 8/73	14°58'40	28-241	COLOMBIA, ECUADOR, PERU, RIO NAPO, RIO PUTUMAYO, C-70
75°48.5W	0°41.2N	12/ 8/73	14°58'26	85-053	COLOMBIA, RIO CAQUETA, RIO CAGUAN, C-75
75°34.0W	0°21.4N	12/ 8/73	14°58'33	85-054	COLOMBIA, RIO CAQUETA, RIO CAGUAN, C-65
75°19.1W	0°01.8N	12/ 8/73	14°58'40	85-055	COLOMBIA, RIO CAQUETA, RIO CAGUAN, C-65
75°20.5W	5°45.2N	3/ 8/73	18°14'50	22-048	COLOMBIA, RIO MAGDALENA, C-90
75°10.6W	11°42.7N	4/ 8/73	17°30'07	83-059	CARIBBEAN SEA, OVEREXPOSED, C-15
75°35.0W	17°58.2N	5/ 8/73	16°45'17	83-228	CARIBBEAN SEA C-20 OVEREXPOSED
75°44.5W	30°57.4N	20/ 9/73	21°06'58	88-368	ATLANTIC OCEAN C-30
75°24.1W	30°40.6N	20/ 9/73	21°07'04	88-369	ATLANTIC OCEAN C-35
75°03.7W	30°23.5N	20/ 9/73	21°07'11	88-370	ATLANTIC OCEAN C-25
75°35.6W	35°31.6N	9/ 8/73	13°47'51	28-031	NORTH CAROLINA, KITTY HAWK, ROANOKE IS., PAMLICO SOUND, C-30
75°01.3W	35°07.7N	9/ 8/73	13°48'01	28-032	NORTH CAROLINA, CAPE HATTERAS, PAMLICO SOUND, C-20
75°51.1W	38°32.9N	5/ 8/73	15°04'14	22-196	MD., VA., DEL., WALLOPS I., CHESAPEAKE BAY, OCEAN CITY, C-20
75°13.5W	38°10.7N	5/ 8/73	15°04'24	22-197	MD., VA., DEL., OCEAN CITY, WALLOPS I., C-20
75°41.3W	38°16.1N	12/ 9/73	17°09'41	40-123	MARYLAND, VIRGINIA, DELAWARE, CHESAPEAKE BAY
75°04.3W	38°39.0N	12/ 9/73	17°09'51	40-124	VA., MD., DEL., N.J., DELAWARE BAY, CAPE MAY, DOVER
75°34.0W	38°03.6N	17/ 9/73	15°08'12	46-116	VIRGINIA, MD., DEL., CHESAPEAKE BAY, DELMAVA PEN., HAZY C-70
75°52.1W	38°34.2N	5/ 8/73	15°04'13	83-168	MD., DEL., CHESAPEAKE BAY., SALISBURY, CAMBRIDGE, C-40
75°27.1W	38°19.6N	5/ 8/73	15°04'20	83-169	MD., DEL., WALLOPS I., OCEAN CITY, SALISBURY, C-40
75°02.3W	38°04.7N	5/ 8/73	15°04'26	83-170	MD., DEL., VA., WALLOPS I., OCEAN CITY, CHINCOTEAGUE BAY, C-40
75°33.3W	38°22.5N	12/ 9/73	17°09'43	86-300	VA., MD., DEL., CHESAPEAKE BAY, OCEAN CITY, SALISBURY
75°08.3W	38°37.3N	12/ 9/73	17°09'50	86-301	MD., DEL., N.J., CAPE MAY, DELAWARE BAY, OCEAN CITY
75°32.7W	38°05.0N	17/ 9/73	15°08'12	88-154	VA., MD., DEL., WALLOPS I., CHESAPEAKE BAY, C-60
75°52.8W	40°34.8N	16/ 9/73	15°52'16	46-031	PA., N.J., ALLENTOWN, LEHIGH RIV., READING, SCRANTON, WILKES-BARRE
75°11.6W	40°55.8N	16/ 9/73	15°52'26	46-032	PA., N.J., N.Y., NYC, NEWARK, BETHLEHEM, SCRANTON C-20
75°50.5W	40°20.7N	21/ 9/73	13°50'40	46-299	PA., N.J., PHILADELPHIA, TRENTON, DELAWARE RIV. C-35
75°10.6W	40°41.6N	21/ 9/73	13°50'50	46-300	PA., N.J., N.Y., NYC, HAZELTON, ALLENTOWN, TRENTON
75°36.3W	40°27.4N	21/ 9/73	13°50'43	87-296	N.J., PA., DELAWARE R., LEHIGH R., ALLENTOWN, C-30
75°08.9W	40°41.4N	21/ 9/73	13°50'50	87-297	PA., N.J., N.Y., DEL. R., LEHIGH R., ALLENTOWN, EASTON, DEL. WATER GAP
75°51.1W	40°36.3N	16/ 9/73	15°52'17	88-069	PA., N.J., READING, HAZELTON, ALLENTOWN, BETHLEHEM, EASTON
75°24.4W	40°50.0N	16/ 9/73	15°52'23	88-070	PA., N.J., DELAWARE R., POCONO MTS., HAZELTON, LEHIGH R., C-11
75°39.3W	42°36.0N	19/ 9/73	20°11'39	46-234	NEW YORK, SYRACUSE, BINGHAMTON, UTICA C-15
75°41.2W	42°37.5N	19/ 9/73	20°11'39	88-270	N.Y., NORWICH, COURTLAND, COOPERSTOWN, C-15
75°12.9W	42°24.8N	19/ 9/73	20°11'45	88-271	N.Y., COOPERSTOWN, ONEONTA, C-15
75°12.9W	43°08.9N	15/ 9/73	16°36'29	40-315	NEW YORK, SYRACUSE C-90
75°35.6W	43°12.7N	10/ 9/73	18°37'52	85-347	N.Y., SYRACUSE, LAKE ONEIDA, UTICA, ROME, MOHAWK R.
75°06.3W	43°24.8N	10/ 9/73	18°37'58	85-348	N.Y., UTICA, ROME, MOHAWK R., ADIRONDACK MTS.
75°46.2W	44°49.0N	14/ 9/73	17°20'20	40-258	QUEBEC, ONTARIO, NEW YORK C-90
75°37.6W	45°02.8N	9/ 9/73	19°21'48	85-301	ONTARIO, QUEBEC, N.Y., ST. LAWRENCE R., OTTAWA, HULL, C-75
75°06.3W	45°13.5N	9/ 9/73	19°21'54	85-302	ONTARIO, QUEBEC, N.Y., ST. LAWRENCE R., OTTAWA, HULL, C-80
75°00.0W	47°40.0N	7/ 9/73	20°49'17	86-124	ONTARIO, C-100
75°00.0W	48°50.0N	6/ 9/73	21°33'16	86-049	QUEBEC C-100
75°45.8W	49°21.9N	10/ 9/73	20°15'40	40-061	CLOUDS, C-100, CANADA, QUEBEC
75°48.8W	49°18.7N	15/ 9/73	18°14'13	40-354	QUEBEC, C-100
75°14.2W	49°26.3N	10/ 9/73	20°15'46	85-404	QUEBEC, C-100
75°49.5W	49°17.9N	15/ 9/73	18°14'13	87-135	QUEBEC, C-100
74°35.3W	46°02.4S	2/ 9/73	14°27'39	84-236	CHILE, PENINSULA TAITAO, FIORDS, FLOATING ICE, C-80
74°25.8W	45°59.6S	2/ 9/73	14°27'41	34-004	CHILE, ARCHPIELAGO DE LOS CHONOS PEN. DE TAITOA C-60
74°03.3W	45°52.5S	2/ 9/73	14°27'45	84-237	CHILE, PENINSULA TAITAO, FIORDS, C-80
74°21.1W	44°19.2S	1/ 9/73	15°11'32	28-302	CLOUDS OVER PACIFIC OCEAN, C-100
74°54.1W	44°30.9S	1/ 9/73	15°11'25	84-164	PACIFIC OCEAN C-100
74°24.1W	44°19.6S	1/ 9/73	15°11'31	84-165	PACIFIC OCEAN C-100
74°46.8W	37°37.3S	3/ 9/73	15°22'21	34-069	PACIFIC OCEAN, CHILE C-15
74°39.6W	7°11.5S	11/ 8/73	15°43'49	28-096	PERU, BRAZIL, RIO UCAYALI (AMAZON), C-70
74°16.9W	7°41.3S	11/ 8/73	15°43'59	28-097	PERU, BRAZIL, RIO UCAYALI (AMAZON), C-70
74°37.3W	7°13.5S	11/ 8/73	15°43'50	84-050	PERU, RIO UCAYALI (AMAZON), RIO TAPICHE, C-35
74°22.1W	7°33.3S	11/ 8/73	15°43'56	84-051	PERU, RIO TALCHE, C-50
74°07.3W	7°52.7S	11/ 8/73	15°44'03	84-052	PERU, BRAZIL, SERRA DO DIVISOR, C-45
74°52.5W	6°53.6S	11/ 8/73	15°43'43	84-049	PERU, RIO UCAYALI (AMAZON), RIO TAPICHE, C-35
74°12.2W	1°28.6S	12/ 8/73	14°59'10	28-244	COLOMBIA, PERU, RIO NAPO C-85
74°20.2W	1°16.9S	12/ 8/73	14°59'06	85-059	COLOMBIA, PERU, RIO PUTUMAYO, RIO NAPO, C-90
74°05.7W	1°36.6S	12/ 8/73	14°59'13	85-060	COLOMBIA, PERU, RIO NAPO, RIO PUTUMAYO, C-85
74°56.7W	0°28.9S	12/ 8/73	14°58'50	28-242	COLOMBIA, PERU, ECUADOR, RIO NAPO, RIO PUTUMAYO, C-75
74°34.7W	0°58.7S	12/ 8/73	14°58'00	28-243	COLOMBIA, PERU, ECUADOR, RIO NAPO, RIO PUTUMAYO, C-75
74°49.8W	0°37.5S	12/ 8/73	14°58'53	85-057	COLOMBIA, ECUADOR, RIO CAQUETA, RIO NAPO, RIO PUTUMAYO, C-80
74°35.0W	0°57.3S	12/ 8/73	14°58'59	85-058	COLOMBIA, ECUADOR, PERU, RIO NAPO, RIO PUTUMAYO, C-90
74°35.0W	4°45.1N	3/ 8/73	18°15'10	22-049	COLOMBIA, BOGOTA, C-85
74°10.3W	10°27.4N	4/ 8/73	17°30'33	83-061	COLOMBIA, OVEREXPOSED, FUNDACION, C-40
74°40.6W	11°04.8N	4/ 8/73	17°30'20	83-060	COLOMBIA, OVEREXPOSED, BARRANQUILLA, MAGDALENA R., C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
74°24.1W	16°36.0N	5/ 8/73	16°45'45	83-230	CARIBBEAN SEA, OVEREXPOSED, C-12
74°59.4W	17°17.2N	5/ 8/73	16°45'31	83-229	CARIBBEAN SEA, OVEREXPOSED, C-10
74°21.8W	29°48.4N	20/ 9/73	21°07'24	88-372	ATLANTIC OCEAN C-15
74°00.4W	29°30.4N	20/ 9/73	21°07'30	88-373	ATLANTIC OCEAN C-15
74°42.9W	30°06.2N	20/ 9/73	21°07'17	88-371	ATLANTIC OCEAN C-20
74°27.1W	34°43.8N	9/ 8/73	13°48'11	28-033	ATLANTIC OCEAN C-20
74°36.3W	37°48.2N	5/ 8/73	15°04'34	22-198	MD., VA., WOLLOPS I., CHINCOTEAGUE BAY, C-20
74°37.9W	37°49.9N	5/ 8/73	15°04'33	83-171	VA., WOLLOPS I., ATLANTIC OCEAN, C-65
74°13.6W	37°34.9N	5/ 8/73	15°04'40	83-172	ATLANTIC OCEAN, C-80
74°56.4W	38°26.0N	17/ 9/73	15°08'22	46-117	MD., DEL., N.J., DELMAVA PEN., DELAWARE BAY, CAPE MAY, HAZY C-60
74°17.8W	38°48.4N	17/ 9/73	15°08'32	46-118	N.J., ATLANTIC CITY, BARNEGAT BAY, HAZY C-50
74°42.6W	38°52.0N	12/ 9/73	17°09'57	86-302	MD., DEL., N.J., CAPE MAY, ATLANTIC CITY, DELAWARE BAY
74°37.9W	38°37.3N	17/ 9/73	15°08'26	88-155	MD., DEL., OCEAN CITY, C-40
74°26.1W	39°00.9N	12/ 9/73	17°10'01	40-125	N.J., DELAWARE, DELAWARE BAY, CAPE MAY, ATLANTIC CITY
74°16.9W	39°06.8N	12/ 9/73	17°10'03	86-303	N.J., ATLANTIC CITY, LITTLE EGG INLET, GREAT BAY
74°41.9W	40°55.3N	21/ 9/73	13°50'56	87-298	PA., N.J., N.Y., NYC, N.J. SUBURBS, DELAWARE R.
74°13.0W	41°15.9N	16/ 9/73	15°12'36	46-033	CONN., N.Y., N.J., PA., NYC, PATERSON, STAMFORD, HUDSON RIV. C-30
74°14.2W	41°57.2N	19/ 9/73	20°11'59	46-236	NEW YORK, PENNSYLVANIA, HUDSON RIV., CATSKILL MTS.
74°02.7W	41°02.7N	21/ 9/73	13°15'00	46-301	N.Y., N.J., PA., CONN., NYC, HUDSON RIV., CATSKILL MTS.
74°14.5W	41°09.0N	21/ 9/73	13°15'03	87-299	N.Y., N.Y., CONN., NYC, PATERSON, STAMFORD, HUDSON R., WHITE PLAINS
74°57.4W	41°03.5N	16/ 9/73	15°12'30	88-071	N.Y., N.J., PA., PATERSON, DELAWARE R., STROLDSEBURG, C-15
74°30.0W	41°17.0N	16/ 9/73	15°12'36	88-072	N.Y., N.J., PA., PATERSON, HUDSON R., PORT JEFFERSON, C-20
74°02.7W	41°30.4N	16/ 9/73	15°12'43	88-073	N.Y., N.J., CONN., PEEKSKILL, WEST POINT, POUGHKEEPSIE, KINGSTON, C-25
74°16.5W	41°59.1N	19/ 9/73	20°11'58	88-273	N.Y., HUDSON R., WEST POINT, NEWBURG, KINGSTON
74°56.4W	42°16.7N	19/ 9/73	20°11'49	46-235	NEW YORK, PENNSYLVANIA, BINGHAMTON, ONEONTA, CATSKILL MTS.
74°44.5W	42°12.1N	19/ 9/73	20°11'52	88-272	N.Y., CATSKILL MTS., ONEONTA
74°59.4W	43°27.1N	10/ 9/73	18°13'00	40-037	NEW YORK, MOHAWK RIV., UTICA, ROME, ADIRONDACK MTS.
74°37.0W	43°36.8N	10/ 9/73	18°13'05	85-349	N.Y., ADIRONDACK MTS., INDIAN LAKE, OLD FORGE
74°07.3W	43°48.6N	10/ 9/73	18°13'11	85-350	N.Y., LAKE GEORGE, SCHROON LAKE, LONG LAKE, LAKE PLACID
74°08.0W	43°36.5N	15/ 9/73	16°13'44	87-058	NEW YORK, C-100
74°35.3W	45°23.6N	9/ 9/73	19°22'01	40-019	ONTARIO-QUEBEC, ST. LAWRENCE RIV., OTTAWA RIV., MONTREAL C-70
74°59.4W	45°05.4N	14/ 9/73	17°22'30	40-259	QUEBEC, NEW YORK C-90
74°11.6W	45°21.6N	14/ 9/73	17°22'40	40-260	QUEBEC, VERMONT, NEW YORK, MONTREAL C-85
74°35.0W	45°24.4N	9/ 9/73	19°22'01	85-303	ONTARIO, QUEBEC, N.Y., ST LAWRENCE R., OTTAWA, R., MONTREAL, C-80
74°03.3W	45°34.4N	9/ 9/73	19°22'07	85-304	QUEBEC, MONTREAL, ST. LAWRENCE R., C-80
74°00.0W	49°15.0N	6/ 9/73	21°33'30	86-050	QUEBEC C-100
74°29.1W	49°28.0N	15/ 9/73	18°14'27	87-136	QUEBEC, C-100
74°31.7W	50°00.6N	11/ 9/73	21°05'20	34-372	QUEBEC C-100
73°38.3W	45°45.3S	2/ 9/73	14°27'51	34-005	CHILE, ARCHIEPIELAGO DE LOS CHONOS PEN. DE TAITOA C-80
73°31.4W	45°42.1S	2/ 9/73	14°27'52	84-238	CHILE, PENINSULA TAITAO, ISLA SIMPSON, ISLA HUMOS, C-80
73°35.7W	44°01.8S	1/ 9/73	15°11'42	28-303	CLOUDS OVER PACIFIC OCEAN, C-100
73°53.5W	44°07.9S	1/ 9/73	15°11'38	84-166	PACIFIC OCEAN C-100
73°24.1W	43°56.7S	1/ 9/73	15°11'45	84-167	PACIFIC OCEAN C-100
73°34.3W	36°51.5S	3/ 9/73	15°22'41	34-070	CHILE, CONCEPCION, RIO RIO RIO, PUNTA LAVAPIE C-40
73°08.6W	9°09.5S	11/ 8/73	15°44'25	28-100	PERU, BRAZIL, RIO JURUA, C-70
73°07.3W	9°10.2S	11/ 8/73	15°44'29	84-056	PERU, BRAZIL, RIO ALTO YURUA, C-70
73°54.4W	8°10.3S	11/ 8/73	15°44'05	28-098	PERU, BRAZIL, RIO UCAYALI (AMAZON), C-70
73°31.7W	8°40.0S	11/ 8/73	15°44'19	28-099	PERU, BRAZIL, RIO UCAYALI (AMAZON), C-70
73°52.5W	8°11.8S	11/ 8/73	15°44'10	84-053	PERU, BRAZIL, SERRA DO DIVISOR, C-40
73°37.6W	8°31.1S	11/ 8/73	15°44'16	84-054	PERU, BRAZIL, SERRA DO DIVISOR, C-35
73°22.5W	8°50.6S	11/ 8/73	15°44'23	84-055	PERU, BRAZIL, RIO ALTO YURUA, C-65
73°27.7W	2°28.1S	12/ 8/73	14°55'30	28-246	COLOMBIA, PERU, RIO NAPO, C-90
73°05.3W	2°57.7S	12/ 8/73	14°55'40	28-247	COLOMBIA, PERU, RIO NAPO, C-90
73°36.0W	2°15.9S	12/ 8/73	14°59'26	85-062	COLOMBIA, PERU, C-99
73°21.5W	2°35.5S	12/ 8/73	14°59'32	85-063	COLOMBIA, PERU, C-95
73°06.7W	2°55.3S	12/ 8/73	14°55'39	85-064	COLOMBIA, PERU, RIO NAPO, C-90
73°50.2W	1°58.4S	12/ 8/73	14°55'20	28-245	COLOMBIA, PERU, RIO NAPO, RIO CURARAY, C-85
73°50.8W	1°56.3S	12/ 8/73	14°55'19	85-061	COLOMBIA, PERU, C-95
73°50.2W	3°45.8N	3/ 8/73	18°15'30	22-050	COLOMBIA, RIO META, VILLAVICENCIO, C-75
73°40.6W	9°49.0N	4/ 8/73	17°30'46	83-062	COLOMBIA, OVEREXPOSED, CHIRIGUANA, C-30
73°10.6W	9°12.1N	4/ 8/73	17°30'59	83-063	COLOMBIA, VENEZUELA, OVEREXPOSED, SIERRA DE PERIJA, C-60
73°48.8W	15°56.0N	5/ 8/73	16°45'55	83-231	CARIBBEAN SEA, OVEREXPOSED, C-11
73°14.9W	15°13.1N	5/ 8/73	16°46'14	83-232	CARIBBEAN SEA, OVEREXPOSED, C-12
73°17.9W	28°53.5N	20/ 9/73	21°07'43	88-375	ATLANTIC OCEAN C-20
73°39.0W	29°12.1N	20/ 9/73	21°07'37	88-374	ATLANTIC OCEAN C-15
73°53.1W	34°19.4N	9/ 8/73	13°48'21	28-034	ATLANTIC OCEAN C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
73°01.4W	36°49.4N	5/ 8/73	15°04'59	83-175	ATLANTIC OCEAN, C-30
73°59.7W	37°25.5N	5/ 8/73	15°04'44	22-199	ATLANTIC OCEAN OFF VIRGINIA, C-30
73°22.8W	37°02.4N	5/ 8/73	15°04'54	22-200	ATLANTIC OCEAN OFF VIRGINIA, C-15
73°49.2W	37°19.7N	5/ 8/73	15°04'46	83-173	ATLANTIC OCEAN, C-30
73°25.1W	37°04.6N	5/ 8/73	15°04'53	83-174	ATLANTIC OCEAN, C-20
73°46.9W	35°22.8N	12/ 9/73	17°10'11	40-126	N.J., ATLANTIC CITY, TOMS RIV., BARNEGAT BAY
73°08.0W	39°44.3N	12/ 9/73	17°10'21	40-127	N.J., BARNEGAT BAY, GARBAGE DUMPING OFF NEW YORK
73°39.6W	39°10.1N	17/ 9/73	15°08'42	46-119	N.J., ATLANTIC CITY, BARNEGAT BAY, HAZY C-65
73°00.7W	39°31.9N	17/ 9/73	15°08'52	46-120	N.J., BARNEGAT BAY C-70
73°50.8W	39°21.3N	12/ 9/73	17°10'10	86-304	N.J., ATLANTIC CITY, PLEASANTVILLE, GREAT BAY
73°24.5W	39°36.3N	12/ 9/73	17°10'17	86-305	N.J., BARNEGAT INLET, SHIP BOTTOM
73°42.6W	39°09.2N	17/ 9/73	15°08'41	88-156	ATLANTIC OCEAN, C-60
73°49.5W	41°36.2N	16/ 9/73	15°52'46	46-034	CONN., N.Y., N.J., NYC, NEW HAVEN, BRIDGEPORT, WATERBURY C-40
73°07.0W	41°56.3N	16/ 9/73	15°52'56	46-035	CONN., N.Y., MASS., NEW HAVEN, HARTFORD, WATERBURY C-60
73°31.7W	41°37.3N	15/ 9/73	20°12'09	46-237	NEW YORK, CONNECTICUT, HUDSON RIV., NEW HAVEN, HARTFORD
73°48.8W	41°22.3N	21/ 9/73	13°51'10	46-302	N.Y., N.J., CONN., MASS., LONG ISLAND SOUND, HUDSON RIV.
73°07.0W	41°42.6N	21/ 9/73	13°51'20	46-303	N.Y., CONN., MASS., CONNECTICUT RIV., NEW HAVEN, HARTFORD
73°33.0W	41°29.2N	21/ 9/73	13°51'13	87-300	N.Y., CONN., HUDSON R., DANBURY, BRIDGEPORT, WATERBURY, WEST POINT
73°05.3W	41°42.4N	21/ 9/73	13°51'20	87-301	N.Y., CONN., MASS., NEW HAVEN, HARTFORD, CONN. R., WATERBURY
73°35.3W	41°43.6N	16/ 9/73	15°52'50	88-074	N.Y., CONN., MASS., WATERBURY, HUDSON R., POUGHKEEPSIE, C-48
73°07.3W	41°56.6N	16/ 9/73	15°52'56	88-075	N.Y., CONN., MASS., WATERBURY, HARTFORD
73°48.8W	41°46.0N	19/ 9/73	20°12'05	88-274	N.Y., CONN., HUDSON R., POUGHKEEPSIE, DANBURY, WEST POINT
73°21.2W	41°32.9N	19/ 9/73	20°12'12	88-275	CONN., N.Y., NEW HAVEN, BRIDGEPORT, NORWICH, HARTFORD, WATERBURY
73°43.6W	43°45.7N	15/ 9/73	16°36'49	40-316	NEW YORK, C-100
73°38.3W	43°48.3N	15/ 9/73	16°36'50	87-059	NEW YORK, C-100
73°29.1W	44°03.0N	10/ 9/73	18°38'20	40-038	NEW YORK, VERMONT, LAKE CHAMPLAIN, BURLINGTON
73°37.6W	44°00.3N	10/ 9/73	18°38'18	85-351	N.Y., VERMONT, LAKE CHAMPLAIN, LAKE GEORGE, TICONDEROGA
73°07.6W	44°11.9N	10/ 9/73	18°38'25	85-352	N.Y., VERMONT, LAKE CHAMPLAIN, BURLINGTON, AUSABLE R.
73°08.6W	44°00.0N	15/ 9/73	16°36'57	87-060	NEW YORK, QUEBEC, C-100
73°24.1W	45°37.2N	14/ 9/73	17°20'50	40-261	QUEBEC, MONTREAL, ST. LAWRENCE RIV. C-65
73°31.7W	45°45.0N	9/ 9/73	19°22'14	85-305	QUEBEC, MONTREAL, ST. LAWRENCE R., ST. LAMBERT, C-80
73°54.1W	49°34.9N	10/ 9/73	20°16'00	40-062	CLOUCCS, C-100, CANADA, QUEBEC
73°57.1W	49°32.4N	15/ 9/73	18°14'33	40-355	QUEBEC, C-100
73°53.8W	49°35.5N	10/ 9/73	20°16'00	85-405	QUEBEC, C-100
73°08.0W	49°37.0N	15/ 9/73	18°14'42	87-137	QUEBEC, C-99
72°50.2W	45°29.4S	2/ 9/73	14°28'01	34-006	CHILE, ARCHIPIELAGO DE LOS CHONOS ANDES, FJORDS C-60
72°02.7W	45°13.4S	2/ 9/73	14°28'11	34-007	CHILE, ARGENTINA, ANDES, RECENT SNOWS C-30
72°59.4W	45°31.4S	2/ 9/73	14°27'58	84-239	CHILE, ANDES FJORDS, PUERTO AISEN, C-85
72°28.4W	45°21.2S	2/ 9/73	14°28'05	84-240	CHILE, COIHATQUE, ANDES, C-85
72°50.8W	43°44.0S	1/ 9/73	15°11'52	28-304	CHILE, ANDES, GOLFO CORCOVADO, CANAL MOPALEDA, C-75
72°06.3W	43°25.8S	1/ 9/73	15°12'02	28-305	CHILE, ARGENTINA, LAGO GEN. VIETTER, ANDES RANGE C-20
72°53.8W	43°44.3S	1/ 9/73	15°11'51	84-168	CHILE, C-99
72°24.5W	43°32.4S	1/ 9/73	15°11'58	84-169	CHILE, ANDES, C-70
72°23.2W	36°04.8S	3/ 9/73	15°23'01	34-071	CHILE, PARRAL, BAHIA CHANCO, TALCA, RIO MAULE C-50
72°22.8W	10°08.5S	11/ 8/73	15°44'49	28-102	PERU, BRAZIL, RIO EMBIRA, C-75
72°21.8W	10°08.5S	11/ 8/73	15°44'49	84-059	PERU, BRAZIL, RIO TOROLLUC, C-75
72°06.7W	10°28.0S	11/ 8/73	15°44'56	84-060	PERU, PIC ALTO PURIS, C-75
72°45.9W	9°39.0S	11/ 8/73	15°44'39	28-101	PERU, BRAZIL, RIO JURUA, C-75
72°52.2W	9°29.6S	11/ 8/73	15°44'36	84-057	PERU, BRAZIL, RIO ALTO YURUA, C-70
72°37.0W	9°49.1S	11/ 8/73	15°44'43	84-058	PERU, BRAZIL, RIO ALTO YURUA, C-75
72°07.3W	4°13.9S	12/ 8/73	15°00'05	85-068	PERU, C-90
72°42.9W	3°28.1S	12/ 8/73	14°59'50	28-248	COLOMBIA, PERU, AMAZON, IQUITOS, RIO NAPO C-90
72°20.5W	3°57.7S	12/ 8/73	15°00'00	28-249	PERU, AMAZON C-90
72°51.8W	3°14.9S	12/ 8/73	14°59'46	85-065	PERU, RIO NAPO, C-92
72°37.0W	3°34.5S	12/ 8/73	14°59'52	85-066	PERU, AMAZON, C-95
72°22.2W	3°54.3S	12/ 8/73	14°59'59	85-067	PERU, C-96
72°11.9W	7°54.3N	4/ 8/73	17°31'25	83-065	COLOMBIA, VENEZUELA, OVEREXPOSED, CUCUTA, SAN CRISTOBAL, C-65
72°40.9W	8°33.8N	4/ 8/73	17°31'12	83-064	COLOMBIA, VENEZUELA, OVEREXPOSED, RIO CATATUMBO, C-75
72°06.0W	13°50.1N	5/ 8/73	16°46'42	83-234	CARIBBEAN SEA, OVEREXPOSED, C-10
72°40.3W	14°31.6N	5/ 8/73	16°46'28	83-233	CARIBBEAN SEA, OVEREXPOSED, C-12
72°46.6W	33°30.3N	9/ 8/73	13°48'41	28-035	ATLANTIC OCEAN C-70
72°46.9W	36°39.4N	5/ 8/73	15°05'04	22-201	ATLANTIC OCEAN OFF VIRGINIA, C-15
72°10.6W	36°15.6N	5/ 8/73	15°05'14	22-202	ATLANTIC OCEAN OFF VIRGINIA, C-30
72°37.7W	36°34.1N	5/ 8/73	15°05'06	83-176	ATLANTIC OCEAN, C-60
72°20.8W	39°53.6N	17/ 9/73	15°09'02	46-121	ATLANTIC OCEAN C-60
72°58.1W	39°50.4N	12/ 9/73	17°10'23	86-306	ATLANTIC OCEAN
72°46.6W	39°40.5N	17/ 9/73	15°08'55	88-157	ATLANTIC OCEAN, C-55
72°28.4W	40°05.5N	12/ 9/73	17°10'31	40-128	N.Y., LONG IS., GREAT SOUTH BAY, FIFE IS.
72°09.3W	40°56.9N	19/ 9/73	20°12'29	46-239	NEW YORK, CONNECTICUT, RHODE ISLAND, LONG IS., BLOCK IS., NEW LONDON
72°31.7W	40°04.5N	12/ 9/73	17°10'30	86-307	ATLANTIC OCEAN
72°05.0W	40°18.7N	12/ 9/73	17°10'37	86-308	ATLANTIC OCEAN

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
72°50.5W	41°17.2N	19/ 9/73	20°12'19	46-238	NEW YORK, CONNECTICUT, LONG IS., WATERBURY, NEW HAVEN
72°37.7W	41°55.6N	21/ 9/73	13°51'26	87-302	CONN., MASS., R.I., HARTFORD, SPRINGFIELD, UNIV. OF CONN., CONN. P
72°53.8W	41°19.7N	19/ 9/73	20°12'18	88-276	CONN., N.Y., LONG I., NEW HAVEN, MERIDIAN, HARTFORD, SAYBROCK
72°26.4W	41°06.2N	19/ 9/73	20°12'25	88-277	CONN., N.Y., R.I., LONG I. SOUND, BLOCK I., NEW LONDON, CONN. R.
72°24.5W	42°15.7N	16/ 9/73	15°53'06	46-036	CONN., MASS., WORCESTER, STORRS, HARTFORD C-70
72°24.8W	42°02.2N	21/ 9/73	13°51'30	46-304	N.Y., VT., CT., N.H., MASS., R.I., PROVIDENCE, STORRS, BERE SHIFF HILLS
72°09.6W	42°08.5N	21/ 9/73	13°51'33	87-303	CONN., MASS., R.I., SPRINGFIELD, WORCESTER, UNIV. OF CONN., WOODSOKET
72°39.3W	42°09.6N	16/ 9/73	15°53'03	88-076	CONN., MASS., R.I., CONN. R., UNIV. OF CONN., WEBSTER, HARTFORD, C-80
72°11.3W	42°22.5N	16/ 9/73	15°53'09	88-077	CONN., MASS., R.I., N.H., WEBSTER, MILFORD, C-85
72°12.6W	44°20.8N	15/ 9/73	16°37'09	40-317	NEW YORK, C-100
72°37.3W	44°23.4N	10/ 9/73	18°38'31	85-353	N.Y., VERMONT, N.H., LAKE CHAMPLAIN, BURLINGTON
72°36.3W	44°12.9N	15/ 9/73	16°37'04	87-061	QUEBEC, NEW YORK, C-100
72°08.3W	44°23.3N	15/ 9/73	16°37'10	87-062	QUEBEC, C-100
72°58.7W	45°54.7N	9/ 9/73	19°22'21	40-020	QUEBEC, MONTREAL, ST. LAWRENCE RIV.
72°35.3W	45°52.7N	14/ 9/73	17°21'00	40-262	QUEBEC, ST. LAWRENCE RIV., DRUMMONDVILLE, SHERBROOKE C-40
72°59.4W	45°55.0N	9/ 9/73	19°22'21	85-306	QUEBEC, MONTREAL, ST. LAWRENCE R., ST. FRANCIS R., C-80
72°27.4W	46°05.1N	9/ 9/73	19°22'27	85-307	QUEBEC, TRCIS RIVIERES, ST. LAWRENCE R., C-80
72°00.1W	49°46.3N	10/ 9/73	20°16'20	40-063	CLOUDS, C-100, CANADA, QUEBEC
72°04.0W	49°44.1N	15/ 9/73	18°14'53	40-356	QUEBEC, C-98
72°33.0W	49°43.8N	10/ 9/73	20°16'14	85-406	QUEBEC, C-99
72°50.0W	49°30.0N	6/ 9/73	21°33'45	86-051	QUEBEC C-100
71°57.8W	45°11.3S	2/ 9/73	14°28'12	84-241	CHILE, ARGENTINA, ANDES, C-70
71°26.8W	45°00.3S	2/ 9/73	14°28'18	84-242	CHILE, ARGENTINA, LAGO FONTANA, LAGO DEL COYTE, C-35
71°15.9W	44°57.3S	2/ 9/73	14°28'21	34-008	CHILE, ARGENTINA, ANDES, LAGO FONTANA C-25
71°23.2W	43°07.7S	1/ 9/73	15°12'12	28-306	CHILE, ARGENTINA, LAGO FUTALUFUQUEN, ANDES
71°55.1W	43°20.4S	1/ 9/73	15°12'04	84-170	CHILE, ARGENTINA, LAGO YELCHO, ANDES, C-20
71°26.1W	43°08.2S	1/ 9/73	15°12'11	84-171	CHILE, ARGENTINA, LAGO FUTALUFUQUEN, ANDES, ESQUEL
71°13.0W	35°16.9S	3/ 9/73	15°23'21	34-072	CHILE, TALCA, CURICO, RIO MATAQUITO C-60
71°36.7W	11°07.2S	11/ 8/73	15°45'05	28-104	PERU, BRAZIL, RIO ALTO PURAS, RIO MANU, RIO LAS PIEDRAS C-80
71°13.3W	11°36.5S	11/ 8/73	15°45'19	29-105	PERU, BRAZIL, RIO LAS PIEDRAS, RIO MANU C-80
71°36.0W	11°06.8S	11/ 8/73	15°45'09	84-062	PERU, RIO DE LOS PIEDRAS, C-80
71°20.5W	11°26.3S	11/ 8/73	15°45'16	84-063	PERU, RIO DE LOS PIEDRAS, RIO MANU, C-80
71°05.4W	11°45.7S	11/ 8/73	15°45'22	84-064	PERU, RIO MANU, RIO PROVIDENCIA, C-80
71°59.8W	10°37.8S	11/ 8/73	15°44'55	28-103	PERU, BRAZIL, RIO ALTO PURAS, C-80
71°51.2W	10°47.4S	11/ 8/73	15°45'02	84-061	PERU, RIO ALTO PURIS, C-75
71°13.3W	5°26.7S	12/ 8/73	15°00'30	28-252	BRAZIL, RIO CUCUPA C-90
71°23.2W	5°12.7S	12/ 8/73	15°00'25	85-071	PERU, BRAZIL, RIO JAVARI, C-95
71°08.0W	5°32.3S	12/ 8/73	15°00'32	85-072	BRAZIL, RIO CURUCA, C-85
71°58.1W	4°27.4S	12/ 8/73	15°00'10	28-250	PERU, BRAZIL, AMAZON C-90
71°35.7W	4°57.0S	12/ 8/73	15°00'20	28-251	PERU, BRAZIL, C-95
71°52.5W	4°33.5S	12/ 8/73	15°00'12	85-069	PERU, BRAZIL, RIO JAVARI, C-96
71°38.0W	4°53.1S	12/ 8/73	15°00'19	85-070	PERU, BRAZIL, RIO JAVARI, C-97
71°18.6W	0°23.4N	3/ 8/73	18°16'38	22-051	CLOUDS OVER COLOMBIA, C-98
71°13.3W	6°37.8N	4/ 8/73	17°31'51	83-067	COLOMBIA, VENEZUELA, RIO ARAUCA, C-70
71°42.6W	7°15.9N	4/ 8/73	17°31'38	83-066	COLOMBIA, VENEZUELA, RIO ARAUCA, C-65, OVEREXPOSED
71°25.8W	12°59.1N	5/ 8/73	16°47'00	22-255	COLUMBIA, GUAJIRA PEN.
71°06.4W	12°43.2N	4/ 9/73	18°03'39	34-223	COLOMBIA, GUAJIRA PEN. C-15
71°32.4W	13°08.2N	5/ 8/73	16°46'57	83-235	CARIBBEAN SEA, OVEREXPOSED, C-12
71°41.0W	32°40.2N	9/ 8/73	13°49'01	28-036	ATLANTIC OCEAN, C-80
71°35.4W	35°51.9N	5/ 8/73	15°05'24	22-203	ATLANTIC OCEAN OFF VIRGINIA, C-60
71°00.4W	35°28.3N	5/ 8/73	15°05'34	22-204	ATLANTIC OCEAN OFF VIRGINIA, C-80
71°47.9W	40°26.9N	12/ 9/73	17°10'41	40-129	N.Y., RHODE IS., MONTAUK POINT, BLOCK IS.
71°07.7W	40°47.5N	12/ 9/73	17°10'51	40-130	N.Y., RHODE IS., MASS., BLOCK IS., NEWPORT, MONTAUK PT., NO MAN'S LAND
71°41.3W	40°14.7N	17/ 9/73	15°09'12	46-122	ATLANTIC OCEAN, BLOCK ISLAND C-50
71°01.1W	40°35.5N	17/ 9/73	15°05'22	46-123	ATLANTIC OCEAN, BLOCK ISLAND, MARTHA'S VINEYARD C-50
71°28.4W	40°36.0N	19/ 9/73	20°12'39	46-240	N.Y., RHODE ISLAND, MONTAUK POINT, BLOCK IS., POINT JUDITH, C-25
71°38.0W	40°32.9N	12/ 9/73	17°10'44	86-309	ATLANTIC OCEAN
71°10.6W	40°46.7N	12/ 9/73	17°10'50	86-310	ATLANTIC OCEAN
71°49.5W	40°11.1N	17/ 9/73	15°05'09	88-158	ATLANTIC OCEAN, C-60
71°59.4W	40°52.6N	19/ 9/73	20°12'31	88-278	CONN., N.Y., R.I., LONG I. BLOCK I., NEW LONDON, FISHERS I.
71°32.7W	40°39.0N	19/ 9/73	20°12'38	88-279	CONN., R.I., MONTAUK POINT, BLOCK I.
71°06.0W	40°25.3N	19/ 9/73	15°12'45	88-280	ATLANTIC OCEAN, C-20
71°42.0W	42°34.8N	16/ 9/73	15°53'16	46-037	CONN., MASS., N.H., BOSTON, CAPE ANN C-80
71°42.0W	42°21.8N	21/ 9/73	13°51'40	46-305	R.I., CONN., MASS., N.H., BOSTON, PROVIDENCE, WORCESTER, LOWELL
71°41.3W	42°21.3N	21/ 9/73	13°51'40	87-304	MASS., R.I., CONN., N.H., BOSTON, WORCESTER, WOODSOKET, LOWELL
71°13.0W	42°34.0N	21/ 9/73	13°51'46	87-305	MASS., N.H., BOSTON, LOWELL, MANCHESTER, LAWRENCE, SALEM
71°42.9W	42°35.1N	16/ 9/73	15°53'16	88-078	MASS., N.H., BOSTON, LYNN, NAHANT, REVEPE, LEXINGTON, C-85
71°14.3W	42°47.7N	16/ 9/73	15°53'23	88-079	MASS., N.H., ME., BOSTON, LYNN, NAHANT, SALEM, C-85
71°57.8W	44°37.4N	10/ 9/73	18°38'40	40-039	VERMONT-QUEBEC, LAKE MEMPHREMAGOG, SHERBROOKE
71°11.3W	44°54.1N	10/ 9/73	18°38'50	40-040	QUEBEC-NEW HAMPSHIRE-VERMONT-MAINE, LAC MEGANTIC

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
71°37.7N	44°34.6N	15/ 9/73	16°37'17	87-063	QUEBEC, C-100
71°07.0W	44°45.8N	15/ 9/73	16°37'23	87-064	QUEBEC, C-100
71°46.9W	46°07.7N	14/ 9/73	17°21'10	40-263	QUEBEC, TROIS RIVIERES, SHERBROOKE, ST. LAWRENCE RIV. C-60
71°55.1W	46°14.3N	9/ 9/73	19°22'34	85-308	QUEBEC, TROIS RIVIERES, ST. MAURICE P., ST. LAWRENCE R., C-85
71°22.5W	46°24.1N	9/ 9/73	19°22'40	85-309	QUEBEC, QUEBEC CITY, ST. LAWRENCE R., C-85
71°12.0W	49°50.9N	10/ 9/73	20°16'29	85-407	QUEBEC, C-100
71°46.6W	49°45.3N	15/ 9/73	18°14'56	87-138	QUEBEC, C-95
70°29.4W	44°40.5S	2/ 9/73	14°28'31	34-009	ARGENTINA, ARROYO GENO, SIERRA CANADON GRANDE C-20
70°55.8W	44°49.4S	2/ 9/73	14°28'25	84-243	CHILE, ARGENTINA, LAGO FONTANA, LAGO DEL COYTE, C-30
70°25.5W	44°38.3S	2/ 9/73	14°28'31	84-244	ARGENTINA, ARROYO GENO, C-15
70°40.3W	42°49.4S	1/ 9/73	15°12'22	28-307	ARGENTINA, ANDES RANGES, ESQUEL, SIERRA DE OLF
70°58.1W	42°56.5S	1/ 9/73	15°12'18	84-172	ARGENTINA, ESQUEL, CORDON DE ESQUEL, RIO LEPA
70°29.4W	42°44.0S	1/ 9/73	15°12'24	84-173	ARGENTINA, CORDON DE ESQUEL, RIO LEPA, RIO TECKA
70°01.1W	42°31.5S	1/ 9/73	15°12'31	84-174	ARGENTINA, SIERRA HUANCACHE, RIO CHURUT
70°04.7W	34°28.6S	3/ 9/73	15°23'41	34-073	CHILE-ARGENTINA, ANDES, TUPUNGATO PEAK C-2C
70°50.0W	34°13.0S	7/ 9/73	13°14'00	85-195	ARGENTINA, CHILE, ANDES
70°02.8W	13°04.7S	11/ 8/73	15°45'49	28-108	PERU, BOLIVIA, RIO MADRE DE DIOS, RIO MARCAPATA C-85
70°03.4W	13°03.0S	11/ 8/73	15°45'49	84-068	PERU, BOLIVIA, RIO ALTO MADRE DE DIOS, RIO MARCAPATA, C-40
70°49.6W	12°06.3S	11/ 8/73	15°45'29	28-106	PERU, BRAZIL, BOLIVIA, RIO MADRE DE DIOS, RIO LAS PIEDRAS C-80
70°26.2W	12°35.5S	11/ 8/73	15°45'35	28-107	PERU, BOLIVIA, RIO MADRE DE DIOS, RIO TAMBOPATA C-80
70°49.9W	12°05.0S	11/ 8/73	15°45'25	84-065	PERU, RIO MANU, RIO ALTO MADRE DE DIOS, C-80
70°34.4W	12°24.3S	11/ 8/73	15°45'35	84-066	PERU, RIO ALTO MADRE DE DIOS, RIO COLORADO, C-50
70°18.9W	12°43.7S	11/ 8/73	15°45'42	84-067	PERU, RIO ALTO MADRE DE DIOS, RIO MARCAPATA, C-40
70°28.1W	6°26.2S	12/ 8/73	15°00'50	28-254	BRAZIL, RIO JURUA, RIO ITACUAI, C-90
70°05.4W	6°55.7S	12/ 8/73	15°01'00	28-255	BRAZIL, RIO JURUA, C-95
70°38.3W	6°11.5S	12/ 8/73	15°00'45	85-074	BRAZIL, RIO CURUCA, RIO UTUI, C-75
70°23.5W	6°31.1S	12/ 8/73	15°00'52	85-075	BRAZIL, RIO UTUI, RIO JURUA, C-75
70°08.4W	6°50.8S	12/ 8/73	15°00'58	85-076	BRAZIL, RIO JURUA, C-85
70°50.5W	5°56.5S	12/ 8/73	15°00'40	28-253	BRAZIL, RIO CURUCA, RIO ITACUAI C-90
70°53.2W	5°51.9S	12/ 8/73	15°00'38	85-073	BRAZIL, RIO CURUCA, C-75
70°11.0W	1°06.7S	3/ 8/73	18°17'08	22-054	COLOMBIA, C-96
70°33.4W	0°37.0S	3/ 8/73	18°16'58	22-053	COLOMBIA, RIO VAUPES, C-96
70°56.0W	0°07.4N	3/ 8/73	13°16'48	22-052	COLOMBIA, C-98
70°44.3W	5°59.4N	4/ 8/73	17°32'04	83-068	COLOMBIA, RIO CASANARE, C-70, OVEREXPOSED
70°15.3W	5°21.0N	4/ 8/73	17°32'16	83-069	COLOMBIA, RIO META, C-70, OVEREXPOSED
70°24.8W	11°44.3N	5/ 8/73	16°47'25	83-237	VENEZUELA, PEN. DE PARAGUANA, GULF OF VENEZUELA, OVEREXPOSED
70°38.7W	12°00.5N	5/ 8/73	16°47'20	22-256	COLOMBIA, VENEZUELA, PARAGUANA PEN., GUAJIRA PEN.
70°58.4W	12°26.3N	5/ 8/73	16°47'11	83-236	COLOMBIA, PEN. DE GUAJIRA, OVEREXPOSED, C-11
70°18.6W	13°42.0N	4/ 9/73	18°03'59	34-224	CARIBBEAN SEA C-15
70°37.0W	31°49.8N	5/ 8/73	13°46'21	28-037	ATLANTIC OCEAN, C-50
70°25.8W	35°04.3N	5/ 8/73	15°05'44	22-205	ATLANTIC OCEAN OFF VIRGINIA, C-95
70°13.3W	39°57.4N	15/ 9/73	20°12'58	88-282	ATLANTIC OCEAN, C-55
70°20.9W	40°56.1N	17/ 9/73	15°09'31	46-124	NANTUCKET, BLOCK ISLAND, MARTHA'S VINEYARD C-60
70°48.2W	40°15.2N	19/ 9/73	20°12'49	46-241	ATLANTIC OCEAN, C-40
70°51.5W	40°41.3N	17/ 9/73	15°05'24	88-159	ATLANTIC OCEAN, C-60
70°39.7W	40°11.3N	19/ 9/73	20°12'51	88-281	ATLANTIC OCEAN, C-45
70°26.8W	41°08.0N	12/ 9/73	17°11'01	40-131	MASS., RHODE IS., NANTUCKET, MARTHA'S VINEYARD, CAPE COD
70°43.3W	41°00.6N	12/ 9/73	17°10'57	86-311	MASS., R.I., BLOCK I., NO MAN'S LAND, MARTHA'S VINEYARD, CUTTYHUNK
70°15.9W	41°14.2N	12/ 9/73	17°11'04	86-312	MASS., MARTHA'S VINEYARD, NANTUCKET, CAPE COD, NAUSHON I.
70°58.1W	42°53.9N	16/ 9/73	15°53'26	46-038	MASS., N.H., BOSTON, CAPE ANN C-90
70°59.1W	42°40.9N	21/ 9/73	13°51'50	46-306	MASS., N.H., ME., BOSTON, MANCHESTER, LOWELL, PORTSMOUTH, CAPE ANN
70°15.6W	42°59.7N	21/ 9/73	13°52'00	46-307	MASS., N.H., ME., CAPE ANN, PORTSMOUTH, PORTLAND
70°44.3W	42°46.5N	21/ 9/73	13°51'53	87-306	MASS., N.H., MAINE, CAPE ANN, GLOUCESTER, PORTSMOUTH, LOWELL, BOSTON
70°15.6W	42°59.0N	21/ 9/73	13°51'59	87-307	MASS., N.H., MAINE, CAPE ANN, PORTSMOUTH, KENNEBUNKPORT
70°14.6W	43°12.6N	16/ 9/73	15°53'36	46-039	MAINE, N.H., BOOTH BAY C-90
70°45.6W	43°00.0N	16/ 9/73	15°53'29	88-080	MASS., N.H., ME., GLOUCESTER, CAPE ANN, C-90
70°16.6W	43°12.2N	16/ 9/73	15°53'36	88-081	MAINE, PORTLAND, C-90
70°39.7W	44°54.7N	15/ 9/73	16°37'29	40-318	NEW YORK, VERMONT, C-100
70°36.4W	44°56.4N	15/ 9/73	16°37'30	87-065	QUEBEC, MAINE, C-100
70°23.8W	45°10.6N	10/ 9/73	18°39'00	40-041	QUEBEC-MAINE, MOOSEHEAD LAKE, MEGANTIC, KENNEBEC R.
70°04.7W	45°07.9N	15/ 9/73	16°37'37	87-066	MAINE, C-100
70°57.8W	46°22.2N	14/ 9/73	17°21'20	40-264	QUEBEC, ST. LAWRENCE RIV. C-90
70°07.4W	46°36.9N	14/ 9/73	17°21'30	40-265	QUEBEC, ST. LAWRENCE RIV. C-95
70°49.9W	46°33.4N	9/ 9/73	19°22'47	85-310	QUEBEC, C-90
70°16.9W	46°42.5N	9/ 9/73	19°22'54	85-311	QUEBEC, MAINE, C-92
70°07.0W	49°55.3N	10/ 9/73	20°16'40	40-064	CLOUDS, C-100, CANADA, QUEBEC

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD /MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
70°10.3W	49°54.0N	15/ 9/73	18°15'13	40-357	QUEBEC, C-95
70°30.1W	49°51.7N	15/ 9/73	18°15'10	87-139	QUEBEC, C-90
69°43.6W	44°23.5S	2/ 9/73	14°28'41	34-010	ARGENTINA, SIERRA GANDON GRANDE, ARROYO GENO C-15
69°54.8W	44°27.1S	2/ 9/73	14°28'38	84-245	ARGENTINA, ARROYO GENO, SIERRA DEL SAN BERNARDO
69°24.8W	44°15.8S	2/ 9/73	14°28'45	84-246	ARGENTINA, SIERRA CANADON GRANDE
69°57.1W	42°30.3S	1/ 9/73	15°12'32	28-308	ARGENTINA, SIERRA DE OLTE, SIERRA CATAN LIL
69°14.3W	42°11.0S	1/ 9/73	15°12'42	28-309	ARGENTINA, SIERRA CATAN LIL
69°33.1W	42°18.8S	1/ 9/73	15°12'37	84-175	ARGENTINA, RIO CHUBUT, SIERRA HUANCAACHE
69°05.1W	42°05.9S	1/ 9/73	15°12'44	84-176	ARGENTINA, SIERRA CATAN LIL
69°50.0W	34°00.0S	7/ 9/73	13°24'05	85-196	ARGENTINA, CHILE, ANDES, LAGUNA MAULF LOOKING NW
69°35.0W	33°46.0S	7/ 9/73	13°24'10	85-197	ARGENTINA, CHILE, ANDES, MENDOZA, LAGUNA MAULF LOCKING NW
69°20.0W	33°33.0S	7/ 9/73	13°24'15	85-198	ARGENTINA, CHILE, ANDES, NIHUIL RES., SAN RAFAEL LOCKING NW
69°05.0W	33°19.0S	7/ 9/73	13°24'20	85-199	ARGENTINA, CHILE, ANDES, SANTIAGO, NIHUIL RES. LOCKING NW
69°15.3W	14°02.8S	11/ 8/73	15°46'05	28-110	BOLIVIA, PERU, PALOMANI PEAK, LAGUNA SUCHES C-90
69°16.3W	14°00.7S	11/ 8/73	15°46'08	84-071	BOLIVIA, C-97
69°00.5W	14°20.0S	11/ 8/73	15°46'15	84-072	BOLIVIA, C-95
69°39.0W	13°33.8S	11/ 8/73	15°45'59	28-109	PERU, BOLIVIA, RIO TAMBOPATA C-90
69°47.6W	13°22.3S	11/ 8/73	15°45'55	84-069	PERU, BOLIVIA, RIO HEATH, RIO TAMBOPATA, C-70
69°32.1W	13°41.6S	11/ 8/73	15°46'02	84-070	BOLIVIA, RIO MACHARIARD, C-90
69°08.7W	8°08.9S	12/ 8/73	15°01'25	85-080	BRAZIL, RIO PAUINI, C-97
69°43.0W	7°25.4S	12/ 8/73	15°01'10	28-256	BRAZIL, RIO JURUA, C-95
69°19.9W	7°55.4S	12/ 8/73	15°01'20	28-257	BRAZIL, C-99
69°53.5W	7°10.2S	12/ 8/73	15°01'05	85-077	BRAZIL, RIO JURUA, C-95
69°38.7W	7°29.8S	12/ 8/73	15°01'11	85-078	BRAZIL, C-95
69°23.5W	7°49.4S	12/ 8/73	15°01'18	85-079	BRAZIL, RIO PAUINI, C-95
69°26.5W	2°06.1S	3/ 8/73	18°17'28	22-056	BRAZIL, RIO ICA, C-85
69°04.4W	2°35.8S	3/ 8/73	18°17'38	22-057	BRAZIL, RIO ICA, AMAZON R., C-75
69°48.5W	1°36.3S	3/ 8/73	18°17'18	22-055	COLOMBIA, BRAZIL, RIO JAPIRA, C-95
69°06.7W	3°49.2N	4/ 8/73	17°32'47	22-135	COLOMBIA, RIO GUAVIARE, RIO VICHADA, C-85
69°00.1W	3°41.5N	4/ 8/73	17°32'50	83-074	COLOMBIA, RIO GUAVARE, C-80, OVEREXPOSED
69°51.5W	4°48.5N	4/ 8/73	17°32'27	22-133	COLOMBIA, VENEZUELA, C-85
69°29.1W	4°18.9N	4/ 8/73	17°32'37	22-134	COLOMBIA, VENEZUELA, C-80
69°44.6W	4°40.5N	4/ 8/73	17°32'30	83-071	COLOMBIA, RIO VACHADA, C-90, OVEREXPOSED
69°29.8W	4°20.9N	4/ 8/73	17°32'37	83-072	COLOMBIA, RIO VACHADA, C-80, OVEREXPOSED
69°15.0W	4°01.2N	4/ 8/73	17°32'43	83-073	COLOMBIA, RIO GUAVARE, C-80, OVEREXPOSED
69°59.5W	5°00.1N	4/ 8/73	17°32'23	83-070	COLOMBIA, RIO TOMO, C-85, OVEREXPOSED
69°05.7W	10°02.8N	5/ 8/73	16°48'00	22-258	VENEZUELA, BARQUISIMETO, C-60
69°18.3W	10°21.1N	5/ 8/73	16°47'54	83-239	VENEZUELA, DIACA, ARDA, OVEREXPOSED, C-30
69°51.5W	11°03.1N	5/ 8/73	16°47'40	22-257	VENEZUELA, PARAGUANA PEN., CORD, GOLFE DE CORD, C-20
69°51.2W	11°03.6N	5/ 8/73	16°47'40	83-238	VENEZUELA, GOLFE DE CORD, OVEREXPOSED, C-20
69°30.8W	14°40.3N	4/ 5/73	18°04'19	34-225	CARIBBEAN SEA C-15
69°34.4W	30°58.9N	9/ 8/73	13°49'41	28-038	ATLANTIC OCEAN, C-20
69°51.9W	34°40.2N	5/ 8/73	15°05'54	22-206	ATLANTIC OCEAN OFF VIRGINIA, C-98
69°17.9W	34°16.0N	5/ 8/73	15°06'04	22-207	ATLANTIC OCEAN OFF CAROLINAS C-99
69°47.3W	39°43.3N	15/ 9/73	20°13'04	88-283	ATLANTIC OCEAN, C-60
69°21.6W	39°29.1N	15/ 9/73	20°13'11	88-284	ATLANTIC OCEAN, C-60
69°45.3W	41°28.6N	12/ 9/73	17°11'11	40-132	MASS., MARTHA'S VINEYARD, NANTUCKET, CAPE COD
69°03.4W	41°48.3N	12/ 9/73	17°11'21	40-133	MASS., CAPE COD, BOTTOM DETAIL, SEA STATE, SHIP WAKES
69°39.3W	41°16.7N	17/ 5/73	15°09'42	46-125	MARTHA'S VINEYARD, NANTUCKET, CAPE COD C-65
69°47.9W	41°27.7N	12/ 9/73	17°11'10	86-313	MASS., NANTUCKET, CHAPPAQUIDDICK I., CAPE COD, HYANNIS
69°19.9W	41°41.3N	12/ 5/73	17°11'17	86-314	ATLANTIC OCEAN
69°52.5W	41°10.9N	17/ 9/73	15°09'38	88-160	MASS., NANTUCKET, MARTHA'S VINEYARD, CAPE COD, MONOMCY
69°30.5W	43°30.7N	16/ 9/73	15°53'46	46-040	MAINE, VINALHAVEN ISLANDS, ROCKLAND C-90
69°31.4W	43°18.5N	21/ 9/73	13°52'10	46-308	MAINE, PORTLAND, BOOTH BAY, BATH, ROCKLAND
69°46.6W	43°11.2N	21/ 9/73	13°52'06	87-308	MAINE, CASCO BAY, CAPE ELIZABETH, BIDDEFORD POOL
69°17.3W	43°23.4N	21/ 9/73	13°52'13	87-309	MAINE, BOOTH BAY HARBOR, SMALL POINT, PORT CLYDE
69°47.6W	43°23.8N	16/ 9/73	15°53'42	88-082	MAINE, PORTLAND, BOOTHBAY HARBOR, CASCO BAY, C-85
69°05.4W	45°26.9N	15/ 9/73	16°37'49	40-319	VERMONT, NEW HAMPSHIRE, QUEBEC, C-100
69°43.6W	46°52.1N	9/ 9/73	19°23'00	85-312	QUEBEC, MAINE, ST. JOHN R., C-90
69°50.6W	49°57.0N	10/ 9/73	20°16'43	85-408	QUEBEC, C-100
69°08.0W	49°57.8N	15/ 9/73	18°15'24	87-140	QUEBEC, LAC STE. ANNE R., MANICOUAGAN R., C-90
68°58.2W	44°06.2S	2/ 9/73	14°28'51	34-011	ARGENTINA, LAGUNA PAYAHILE, SIERRA DE OLTE C-30
68°54.9W	44°04.2S	2/ 9/73	14°28'51	84-247	ARGENTINA, SIERRA CANADON GRANDE, LAGO PAYAHILE, C-30
68°13.0W	43°48.6S	2/ 9/73	14°29'01	34-012	ARGENTINA, LOMADAS COLORADAS, RIO CHUBUT C-60
68°25.2W	43°52.7S	2/ 9/73	14°28'58	84-248	ARGENTINA, LAGO PAYAHILE, C-70
68°32.1W	41°51.4S	1/ 9/73	15°12'52	28-310	ARGENTINA, SIERRA CATAN LIL, MESETA DE SCHMURCA

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
68°37.1W	41°53.1S	1/ 9/73	15°12'51	84-177	ARGENTINA, SIERRA CATAN LIL
68°09.7W	41°39.9S	1/ 9/73	15°12'57	84-178	ARGENTINA, SIERRA CATAN LIL
68°57.5W	33°39.5S	3/ 9/73	15°24'01	34-074	CHILE-ARGENTINA, ANDES, MENDOZA
68°50.0W	33°07.0S	7/ 9/73	13°24'25	85-200	ARGENTINA, CHILE, ANDES, SAN RAFAEL LOOKING NW
68°35.0W	32°52.0S	7/ 9/73	13°24'30	85-201	ARGENTINA, CHILE, ANDES, SANTIAGO, SAN RAFAEL LOOKING NW
68°20.0W	32°38.0S	7/ 9/73	13°24'35	85-202	ARGENTINA, CHILE, ANDES, SAN JUAN, SAN RAFAEL LOOKING NW
68°05.0W	32°25.0S	7/ 9/73	13°24'40	85-203	ARGENTINA, CHILE, ANDES, RIO CESAGUADEPO, SAN JUAN LOOKING NW
68°27.8W	15°01.0S	11/ 8/73	15°46'29	28-112	BOLIVIA, CORDILLERA REAL, C-95
68°03.1W	15°30.4S	11/ 8/73	15°46'39	28-113	BOLIVIA, CORDILLERA REAL, C-95
68°13.0W	15°17.5S	11/ 8/73	15°46'35	84-075	BOLIVIA, C-99
68°51.6W	14°32.0S	11/ 8/73	15°46'19	28-111	BOLIVIA, PERU, LAGUNA SUCHES, PALOMANT PEAK C-90
68°44.6W	14°39.3S	11/ 8/73	15°46'22	84-073	BOLIVIA, C-97
68°28.8W	14°58.4S	11/ 8/73	15°46'28	84-074	BOLIVIA, C-99
68°11.7W	9°24.2S	12/ 8/73	15°01'50	28-260	BRAZIL, C-100
68°23.5W	9°07.7S	12/ 8/73	15°01'44	85-083	BRAZIL, C-100
68°08.4W	9°27.3S	12/ 8/73	15°01'51	85-084	BRAZIL, C-100
68°56.8W	8°24.7S	12/ 8/73	15°01'30	28-258	BRAZIL, C-99
68°34.1W	8°54.3S	12/ 8/73	15°01'40	28-259	BRAZIL, C-100
68°53.2W	8°28.1S	12/ 8/73	15°01'31	85-081	BRAZIL, C-100
68°38.4W	8°47.8S	12/ 8/73	15°01'38	85-082	BRAZIL, C-100
68°42.0W	3°05.5S	3/ 8/73	18°17'48	22-058	BRAZIL, RIO ICA, AMAZON R., C-75
68°19.9W	3°35.1S	3/ 8/73	18°17'58	22-059	BRAZIL, JUNCTION OF RIO AMAZON WITH ICA, C-60
68°21.9W	2°49.7N	4/ 8/73	17°33'07	22-137	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, C-80
68°15.6W	2°42.5N	4/ 8/73	17°33'10	83-077	COLOMBIA, RIO GUATANA, C-70, OVEREXPOSED
68°00.8W	2°22.7N	4/ 8/73	17°33'16	83-078	COLOMBIA, BRAZIL, C-75, OVEREXPOSED
68°44.3W	3°19.4N	4/ 8/73	17°32'57	22-136	COLOMBIA, RIO GUAVIARE, RIO INIRIDA, C-80
68°45.3W	3°21.9N	4/ 8/73	17°32'56	83-075	COLOMBIA, RIO INIRIDA, C-80, OVEREXPOSED
68°30.5W	3°02.3N	4/ 8/73	17°33'03	83-076	COLOMBIA, RIO INIRIDA, C-75, OVEREXPOSED
68°12.7W	8°55.7N	5/ 8/73	16°48'22	83-241	VENEZUELA, RIO PORTUGUESA, OVEREXPOSED, C-40
68°19.9W	9°03.8N	5/ 8/73	16°48'20	22-259	VENEZUELA, CALABOZO, GUARICO RES., RIO PORTUGUESA, C-60
68°48.6W	9°31.0N	5/ 8/73	16°48'08	83-240	VENEZUELA, SAN CARLOS, TINACO, OVEREXPOSED, C-40
68°42.3W	15°38.7N	4/ 9/73	18°04'39	34-226	CARIBBEAN SEA C-15
68°32.8W	30°07.3N	5/ 8/73	13°50'01	28-039	ATLANTIC OCEAN, C-20
68°44.6W	33°51.6N	5/ 8/73	15°06'14	22-208	ATLANTIC OCEAN OFF CAROLINAS C-100
68°11.0W	33°26.5N	5/ 8/73	15°06'24	22-209	ATLANTIC OCEAN OFF CAROLINAS C-98
68°55.8W	39°14.8N	19/ 9/73	20°13'18	88-285	ATLANTIC OCEAN, C-55
68°30.1W	39°00.3N	19/ 9/73	20°13'24	88-286	ATLANTIC OCEAN, C-50
68°57.8W	41°36.8N	17/ 5/73	15°09'52	46-126	ATLANTIC OCEAN C-60
68°16.0W	41°56.6N	17/ 5/73	15°10'02	46-127	ATLANTIC OCEAN, C-70
68°51.9W	41°54.4N	12/ 9/73	17°11'24	86-315	ATLANTIC OCEAN
68°52.9W	41°39.9N	17/ 9/73	15°05'53	88-161	ATLANTIC OCEAN, C-70
68°46.9W	43°36.6N	21/ 9/73	13°52'20	46-309	MAINE, PENOBSCOT BAY, MT. DESERT IS., BAR HARBOR
68°02.1W	43°54.4N	21/ 9/73	13°52'30	46-310	MAINE, ACACIA NAT. PARK, BAR HARBOR
68°47.9W	43°35.5N	21/ 9/73	13°52'19	87-310	MAINE, VINALHAVEN, ISLE AU HAUT, TENANTS HARBOR
68°18.6W	43°47.3N	21/ 9/73	13°52'26	87-311	MAINE, VINALHAVEN, MT. DESERT I., ACACIA NAT. PARK, SWANS I.
68°57.2W	43°44.9N	16/ 9/73	15°53'54	88-083	MAINE, PENOBSCOT BAY, VINALHAVEN I., ISLE AU HAUT, C-80
68°00.1W	44°06.6N	16/ 9/73	15°54'06	46-041	MAINE, MT. DESERT IS., BAR HARBOR C-50
68°26.8W	47°03.8N	14/ 9/73	17°21'50	40-266	QUEBEC, MAINE C-98
68°10.0W	47°02.0N	5/ 9/73	19°23'07	85-313	GULF OF ST. LAWRENCE C-99
68°37.0W	47°11.6N	9/ 9/73	19°23'14	85-314	GULF OF ST. LAWRENCE C-70
68°04.0W	47°20.8N	5/ 9/73	19°23'20	85-315	GULF OF ST. LAWRENCE C-70
68°13.0W	50°02.4N	10/ 9/73	20°17'00	40-065	CLUCCS, C-100, CANADA, QUEBEC
68°15.6W	50°01.6N	15/ 9/73	18°15'33	40-358	QUEBEC, ST. LAWRENCE RIV., MANICOLGAN RIV., C-85
68°28.5W	50°02.1N	10/ 9/73	20°16'57	85-409	QUEBEC, C-100
67°28.5W	43°30.6S	2/ 9/73	14°29'11	34-013	ARGENTINA, LOMADAS COLOPADAS, RIO CHUBUT C-60
67°55.5W	43°40.8S	2/ 9/73	14°29'04	84-249	ARGENTINA, RIO CHUBUT, C-70
67°26.2W	43°29.0S	2/ 9/73	14°25'11	84-250	ARGENTINA, RIO CHUBUT, C-40
67°50.9W	41°31.6S	1/ 9/73	15°13'02	28-311	ARGENTINA, MESETA DE SCHUNCURA
67°09.7W	41°11.5S	1/ 9/73	15°13'12	28-312	ARGENTINA, MESETA DE SCHUNCURA
67°42.3W	41°26.7S	1/ 9/73	15°13'04	84-179	ARGENTINA, MESETA DE SCHUNCURA
67°15.0W	41°13.3S	1/ 9/73	15°13'10	84-180	ARGENTINA, MESETA DE SCHUNCURA
67°51.9W	32°49.6S	3/ 9/73	15°24'21	34-075	ARGENTINA, ANDES, MENDOZA, SAN MARTIN
67°50.0W	32°13.0S	7/ 9/73	13°24'45	85-204	ARGENTINA, CHILE, ANDES, RIO DESAGUADEPO, SAN JUAN LOOKING NW
67°35.0W	32°00.0S	7/ 9/73	13°24'50	85-205	ARGENTINA, CHILE, ANDES, PAMPA DE LAS SALINAS, SAN JUAN LOOKING NW
67°20.0W	31°46.0S	7/ 9/73	13°24'55	85-206	ARGENTINA, CHILE, ANDES, PAMPA DE LAS SALINAS, LOOKING NW
67°05.0W	31°33.0S	7/ 9/73	13°25'00	85-207	ARGENTINA, CHILE, ANDES, PAMPAS DE LAS SALINAS, ANDES LOOKING NW
67°14.7W	16°28.2S	11/ 8/73	15°46'55	28-115	BOLIVIA, CORDILLERA REAL, C-95
67°24.9W	16°15.0S	11/ 8/73	15°46'55	84-078	BOLIVIA, C-99

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
67°09.1W	16°34.0S	11/ 8/73	15°47'01	84-079	BOLIVIA, C-99
67°39.1W	15°59.4S	11/ 8/73	15°46'49	28-114	BOLIVIA, CORDILLERA REAL, C-95
67°57.2W	15°36.6S	11/ 8/73	15°46'41	84-076	BOLIVIA, C-99
67°41.0W	15°55.9S	11/ 8/73	15°46'48	84-077	BOLIVIA, C-99
67°25.5W	10°22.7S	12/ 8/73	15°02'10	28-262	BRAZIL, BOLIVIA C-100
67°01.0W	10°51.0S	12/ 8/73	15°02'20	28-263	BRAZIL, BOLIVIA C-100
67°37.4W	10°05.5S	12/ 8/73	15°02'04	85-086	BRAZIL, BOLIVIA, C-100
67°22.6W	10°25.3S	12/ 8/73	15°02'11	85-087	BRAZIL, BOLIVIA, C-100
67°07.4W	10°44.8S	12/ 8/73	15°02'17	85-088	BOLIVIA, C-100
67°47.6W	9°52.7S	12/ 8/73	15°02'00	28-261	BRAZIL, C-100
67°52.6W	9°46.1S	12/ 8/73	15°01'58	85-085	BRAZIL, C-100
67°12.0W	5°05.3S	3/ 8/73	18°18'28	22-062	BRAZIL, RIO JURUA, C-70
67°56.5W	4°06.0S	3/ 8/73	18°18'08	22-060	BRAZIL, AMAZON R., RIO JUTAI, C-60
67°34.4W	4°35.6S	3/ 8/73	18°18'18	22-061	BRAZIL, RIO JUTAI, RIO JURUA, C-60
67°37.4W	1°50.1N	4/ 8/73	17°33'27	22-139	BRAZIL, RIO NEGRO, C-75
67°15.0W	1°20.4N	4/ 8/73	17°33'37	22-140	BRAZIL, RIO NEGRO, C-75
67°31.5W	1°43.3N	4/ 8/73	17°33'29	83-080	COLOMBIA, BRAZIL, VENEZUELA, RIO NEGRO, C-60, OVEREXPOSED
67°16.6W	1°23.7N	4/ 8/73	17°33'36	83-081	COLOMBIA, BRAZIL, VENEZUELA, RIO NEGRO, C-70, OVEREXPOSED
67°01.8W	1°04.1N	4/ 8/73	17°33'43	83-082	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, C-75, OVEREXPOSED
67°59.5W	2°19.9N	4/ 8/73	17°33'17	22-138	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, C-75
67°46.3W	2°03.1N	4/ 8/73	17°33'23	83-079	COLOMBIA, BRAZIL, C-70, OVEREXPOSED
67°11.0W	7°34.8N	5/ 8/73	16°48'50	22-261	VENEZUELA, ORINOCO R., CAICARA, RIO ARAUCA, C-65
67°12.0W	7°37.3N	5/ 8/73	16°48'49	83-243	VENEZUELA, RIO ORINOCO, RIO APURE, OVEREXPOSED, C-70
67°34.1W	8°04.7N	5/ 8/73	16°48'40	22-260	VENEZUELA, GUARICO RES., RIO PORTUGUESA, C-75
67°40.0W	8°13.4N	5/ 8/73	16°48'37	83-242	VENEZUELA, RIO GUARICO, OVEREXPOSED, C-80
67°53.6W	16°36.5N	4/ 9/73	18°04'59	34-227	CARIBBEAN SEA C-30
67°04.1W	17°34.4N	4/ 9/73	18°05'19	34-228	CARIBBEAN SEA, STORM CRISTINE EDGE C-50
67°31.8W	29°14.7N	9/ 8/73	13°50'21	28-040	ATLANTIC OCEAN, C-20
67°38.1W	33°01.7N	5/ 8/73	15°06'34	22-210	ATLANTIC OCEAN NEAR BERMUDA, C-95
67°48.6W	43°59.0N	21/ 9/73	13°52'32	87-312	MAINE, MT. DESERT I., SCHOODIC POINT, JONES PORT
67°16.6W	44°12.2N	21/ 9/73	13°52'40	46-311	MAINE, NOVA SCOTIA, NEW BRUNSWICK, MACHIAS, CAMPOBELLO IS.
67°18.6W	44°10.6N	21/ 9/73	13°52'39	87-313	MAINE, JONESPORT, MACHIAS HARBOR, GRAND MANAN CHANNEL
67°52.6W	44°10.1N	16/ 9/73	15°54'08	88-084	MAINE, MT. DESERT I., BAR HARBOR, ACADIA NAT. PARK, C-80
67°06.4W	50°06.2N	10/ 9/73	20°17'12	85-410	QUEBEC, C-100
67°45.3W	50°02.7N	15/ 9/73	18°15'38	87-141	QUEBEC, GULF OF ST. LAWRENCE, SHELTER BAY, PORT CARTIER, C-70
66°44.7W	43°12.2S	2/ 9/73	14°29'21	34-014	ARGENTINA, LOMADAS COLORADAS, TRELEW, RIO CHUBUT C-60
66°57.2W	43°16.9S	2/ 9/73	14°29'18	84-251	ARGENTINA, RIO CHUBUT, LOMADAS COLORADAS, C-55
66°28.2W	43°04.7S	2/ 9/73	14°29'24	84-252	ARGENTINA, RIO CHURUT, LOMADAS COLORADAS, C-75
66°48.0W	41°00.0S	1/ 9/73	15°13'17	84-181	ARGENTINA, MESETA DE SOMUNCURA
66°29.2W	40°51.1S	1/ 9/73	15°13'22	28-313	ARGENTINA, MESETA DE SCHUNCURA, FLACKNER
66°21.3W	40°46.5S	1/ 9/73	15°13'24	84-182	ARGENTINA, VALCHETA, LAGUNA CURICO
66°47.6W	31°59.1S	3/ 9/73	15°24'41	34-076	ARGENTINA, PAMPA DE LAS SALINAS
66°50.0W	31°20.0S	7/ 9/73	13°25'05	85-208	ARGENTINA, CHILE, PAMPAS DE LAS SALINAS, ANDES LOOKING NW
66°35.0W	31°04.0S	7/ 9/73	13°25'10	85-209	ARGENTINA, CHILE, SALINA DE ANTIQUE, ANDES, LOOKING NW
66°20.0W	30°50.0S	7/ 9/73	13°25'15	85-210	ARGENTINA, CHILE, SALINA GRANDES, CRUZ DE EJE LOOKING NW
66°05.0W	30°37.0S	7/ 9/73	13°25'20	85-211	ARGENTINA, CHILE, SALINA GRANDES, CRUZ DE EJE LOOKING NW
66°25.6W	17°25.5S	11/ 8/73	15°47'15	28-117	BOLIVIA, CORDILLERA ORIENTE NEAR COCHABAMBA C-90
66°00.8W	17°54.2S	11/ 8/73	15°47'25	28-118	BOLIVIA, CORDILLERA ORIENTE NEAR COCHABAMBA C-85
66°36.4W	17°12.0S	11/ 8/73	15°47'14	84-081	BOLIVIA, C-95
66°20.3W	17°31.0S	11/ 8/73	15°47'21	84-082	BOLIVIA, C-95
66°03.8W	17°49.9S	11/ 8/73	15°47'28	84-083	BOLIVIA, C-93
66°50.3W	16°56.9S	11/ 8/73	15°47'09	28-116	BOLIVIA, CORDILLERA ORIENTE C-90
66°52.6W	16°53.1S	11/ 8/73	15°47'08	84-080	BOLIVIA, C-99
66°39.1W	11°21.5S	12/ 8/73	15°02'30	28-264	BOLIVIA, C-100
66°15.7W	11°50.8S	12/ 8/73	15°02'40	28-265	BOLIVIA, C-100
66°51.9W	11°04.2S	12/ 8/73	15°02'24	85-089	BRAZIL, BOLIVIA, C-100
66°36.4W	11°23.5S	12/ 8/73	15°02'31	85-090	BRAZIL, BOLIVIA, C-100
66°21.3W	11°42.8S	12/ 8/73	15°02'37	85-091	BRAZIL, BOLIVIA, C-100
66°26.9W	6°04.4S	3/ 8/73	18°18'48	22-064	BRAZIL, AMAZON BASIN, C-90
66°04.5W	6°34.3S	3/ 8/73	18°18'58	22-065	BRAZIL, AMAZON BASIN, C-98
66°08.7W	6°06.3S	8/ 8/73	16°18'28	83-328	BRAZIL, RIO COARI, C-85
66°49.6W	5°34.8S	3/ 8/73	18°18'38	22-063	BRAZIL, RIO JURUA, AMAZON BASIN, C-75
66°40.1W	5°27.2S	8/ 8/73	16°18'15	* 22-363	BRAZIL, RIO JURUA, CARAUARI, C-70
66°15.3W	5°56.7S	8/ 8/73	16°18'25	* 22-364	BRAZIL, RIO JURUA, RIO REPARTIMENTO, C-75
66°39.4W	5°27.0S	8/ 8/73	16°18'15	83-326	BRAZIL, RIO JURUA, RIO REPARTIMENTO, C-80
66°21.6W	5°46.6S	8/ 8/73	16°18'21	83-327	BRAZIL, RIO RAPARIMENTO, C-85
66°07.4W	0°09.8S	4/ 8/73	17°34'07	22-143	BRAZIL, RIO NEGRO, C-75

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
66°03.1W	0°14.7S	4/ 8/73	17°34'09	83-086	BRAZIL, RIO NEGRO, PARANARI, C-50, OVEREXPOSED
66°51.9W	0°49.6N	4/ 8/73	17°33'48	22-141	BRAZIL, RIO NEGRO, C-75
66°29.8W	0°19.9N	4/ 8/73	17°33'58	22-142	BRAZIL, RIO NEGRO, C-75
66°47.3W	0°44.3N	4/ 8/73	17°33'49	83-083	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, C-85, OVEREXPOSED
66°32.5W	0°24.7N	4/ 8/73	17°33'56	83-084	VENEZUELA, BRAZIL, C-80, OVEREXPOSED
66°17.6W	0°04.9N	4/ 8/73	17°34'02	83-085	BRAZIL, RIO NEGRO, C-70, OVEREXPOSED
66°25.9W	6°35.7N	5/ 8/73	16°49'10	22-263	VENEZUELA, ORINOCO R., SERRANIA DE CERRATENA, C-50
66°03.1W	6°05.8N	5/ 8/73	16°49'20	22-264	VENEZUELA, SERRANIA DE CERRATENA, C-50
66°40.4W	6°55.8N	5/ 8/73	16°49'03	83-245	VENEZUELA, RIO ORINOCO, C-25
66°24.6W	6°35.0N	5/ 8/73	16°49'10	83-246	VENEZUELA, SABANA SIAMACU, C-35
66°08.7W	6°14.2N	5/ 8/73	16°49'17	83-247	VENEZUELA, SABANA SIAMACU, C-55
66°48.3W	7°05.3N	5/ 8/73	16°49'00	22-262	VENEZUELA, ORINOCO R., RIO APURE, C-50
66°56.2W	7°16.5N	5/ 8/73	16°48'56	83-244	VENEZUELA, RIO ORINOCO, RIO ARAUCA, C-50
66°14.4W	18°31.9N	4/ 9/73	18°05'35	34-229	STORM CRISTINE C-100
66°32.5W	28°22.0N	5/ 8/73	13°50'41	28-041	ATLANTIC OCEAN, C-20
66°27.9W	44°40.9N	16/ 5/73	15°54'26	46-042	MAINE, C-100
66°30.8W	44°29.4N	21/ 9/73	13°52'50	46-312	MAINE, NOVA SCOTIA, NEW BRUNSWICK, DIGBY, ST. JOHN, GRAND MANAN
66°48.6W	44°22.1N	21/ 9/73	13°52'46	87-314	MAINE, NEW BRUNSWICK, NOVA SCOTIA, GRAND MANAN I., DIGBY NECK
66°18.0W	44°33.3N	21/ 9/73	13°52'52	87-315	MAINE, NEW BRUNSWICK, NOVA SCOTIA, DIGBY NECK, CAMPOBELLE I.
66°46.7W	44°34.8N	16/ 5/73	15°54'22	88-085	MAINE, NEW BRUNSWICK, C-100
66°44.7W	47°29.3N	14/ 9/73	17°22'10	40-267	QUEBEC, NEW BRUNSWICK, BAY CHALEUR C-85
66°20.6W	50°07.2N	15/ 9/73	18°15'53	40-359	QUEBEC, ST. LAWRENCE RIV., SEPT ISLE, C-70
66°22.6W	50°06.5N	15/ 9/73	18°15'53	87-142	QUEBEC, SEPT. ISLE, PORT CARTIER, GULF OF ST. LAWRENCE, C-65
65°59.5W	42°52.4S	2/ 9/73	14°25'31	84-253	ARGENTINA, LOMADAS COLORADAS, C-50
65°31.2W	42°39.9S	2/ 9/73	14°29'37	84-254	ARGENTINA, LOMADAS COLORADAS, C-95
65°02.8W	42°27.3S	2/ 9/73	14°29'44	84-255	ARGENTINA, GOLFO NUEVO, GOLFO SAN JOSE, GOLFO SAN MATIAS, C-85
65°48.6W	40°30.3S	1/ 9/73	15°13'32	28-314	ARGENTINA, GOLFO SAN MATIAS, SALINA GUALICHO
65°08.8W	40°09.4S	1/ 9/73	15°13'42	28-315	ARGENTINA, GOLFO SAN MATIAS, SAN ANTONIO OESTE, SALINA GUALICHO
65°54.6W	40°32.6S	1/ 9/73	15°13'30	84-183	ARGENTINA, VALCHETA, LAGUNA CURICO
65°28.2W	40°19.0S	1/ 9/73	15°13'37	84-184	ARGENTINA, SALINA GUALICHO
65°01.8W	40°05.1S	1/ 9/73	15°13'43	84-185	ARGENTINA, SALINA GUALICHO RIO NEGRO
65°44.0W	31°07.5S	3/ 9/73	15°25'01	34-077	ARGENTINA, SIERRA DE CORDORA
65°50.0W	30°25.0S	7/ 9/73	13°25'25	85-212	ARGENTINA, CHILE, SALINA GRANDES, CRUZ DE EJE LOOKING NW
65°35.0W	30°10.0S	7/ 9/73	13°25'30	85-213	ARGENTINA, SALINAS GRANDES, CRUZ DE EJE LOOKING NW
65°20.0W	29°55.0S	7/ 9/73	13°25'35	85-214	ARGENTINA, SALINAS GRANDES, CRUZ DE EJE LOOKING NW
65°05.0W	29°45.0S	7/ 9/73	13°25'40	85-215	ARGENTINA, SALINAS GRANDES, LA ROISA LOOKING NW
65°47.3W	18°08.9S	11/ 8/73	15°47'34	84-084	BOLIVIA, NEAR COCHABAMBA, C-90
65°05.1W	13°19.0S	12/ 8/73	15°03'10	28-268	BOLIVIA, C-96
65°19.3W	13°00.2S	12/ 8/73	15°03'04	85-094	BOLIVIA, C-100
65°03.8W	13°19.7S	12/ 8/73	15°03'10	85-095	BOLIVIA, C-100
65°51.9W	12°20.5S	12/ 8/73	15°02'50	28-266	BOLIVIA, C-100
65°28.5W	12°49.8S	12/ 8/73	15°03'00	28-267	BOLIVIA, C-98
65°50.3W	12°21.7S	12/ 8/73	15°02'50	85-092	BRAZIL, BOLIVIA, C-100
65°34.8W	12°40.9S	12/ 8/73	15°02'57	85-093	BRAZIL, BOLIVIA, C-100
65°42.4W	7°02.8S	3/ 8/73	18°15'08	22-066	BRAZIL, AMAZON BASIN, C-98
65°18.0W	7°33.4S	3/ 8/73	18°19'18	22-067	BRAZIL, AMAZON BASIN, C-98
65°10.4W	7°26.5S	8/ 8/73	16°18'55	* 22-367	BRAZIL, RIO PURAS, RIO MUCIUM, C-70
65°25.9W	7°05.1S	8/ 8/73	16°18'48	83-331	BRAZIL, RIO PURUS, C-80
65°10.7W	7°24.7S	8/ 8/73	16°18'54	83-332	BRAZIL, RIO PURUS, C-80
65°57.9W	6°26.5S	8/ 8/73	16°18'35	* 22-365	BRAZIL, RIO REPAPIMENTO, RIO COARI, C-80
65°34.5W	6°57.0S	8/ 8/73	16°18'45	* 22-366	BRAZIL, RIO TAPAU, RIO PURAS, C-70
65°57.2W	6°26.0S	8/ 8/73	16°18'34	83-329	BRAZIL, RIO TAPAU, C-80
65°43.7W	6°45.6S	8/ 8/73	16°18'41	83-330	BRAZIL, RIO PINHUA, C-75
65°22.9W	1°09.3S	4/ 8/73	17°34'27	22-145	BRAZIL, RIO NEGRO, C-80
65°00.5W	1°39.1S	4/ 8/73	17°34'37	22-146	BRAZIL, RIO NEGRO, C-80
65°18.7W	1°13.7S	4/ 8/73	17°34'29	83-089	BRAZIL, RIO UNEIXI, C-75, OVEREXPOSED
65°04.2W	1°33.5S	4/ 8/73	17°34'35	83-090	BRAZIL, RIO CUNINI, C-75, OVEREXPOSED
65°45.3W	0°39.6S	4/ 8/73	17°34'17	22-144	BRAZIL, RIO NEGRO, C-80
65°48.3W	0°34.4S	4/ 8/73	17°34'16	83-087	BRAZIL, RIO NEGRO, PARANARI, C-45, OVEREXPOSED
65°33.5W	0°54.1S	4/ 8/73	17°34'22	83-088	BRAZIL, RIO NEGRO C-80, OVEREXPOSED
65°05.5W	4°50.9N	5/ 8/73	16°49'45	83-251	VENEZUELA, RIO VENTUARI, C-75
65°40.7W	5°36.2N	5/ 8/73	16°49'30	22-265	VENEZUELA, SIERRA MATIGUALIDE, C-60
65°18.0W	5°06.3N	5/ 8/73	16°49'40	22-266	VENEZUELA, MESETA DEL CERRO JAU, C-60
65°52.9W	5°53.3N	5/ 8/73	16°49'24	83-248	VENEZUELA, SIERRA MATIGUALIDE, C-65
65°37.1W	5°32.5N	5/ 8/73	16°49'31	83-249	VENEZUELA, RIO VENTUARI, C-60
65°21.3W	5°11.6N	5/ 8/73	16°49'38	83-250	VENEZUELA, RIO VENTUARI, C-75
65°23.3W	19°29.9N	4/ 9/73	18°05'59	34-230	STORM CRISTINE C-100
65°34.5W	27°28.8N	9/ 8/73	13°51'01	28-042	ATLANTIC OCEAN, C-20
65°19.6W	27°01.9N	13/ 9/73	14°48'35	86-346	ATLANTIC OCEAN, CLOUDS, C-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
65°00.2W	27°20.7N	13/ 9/73	14°48'41	86-347	ATLANTIC OCEAN, C-100
65°44.7W	44°46.2N	21/ 9/73	13°53'00	46-313	NEW BRUNSWICK, NOVA SCOTIA, BAY OF FUNDY, ST. JOHN
65°47.3W	44°44.3N	21/ 9/73	13°52'59	87-316	NEW BRUNSWICK, NOVA SCOTIA, DIGBY, ANNAPOLIS ROYAL, BAY OF FUNDY
65°16.7W	44°55.4N	21/ 9/73	13°53'05	87-317	NEW BRUNSWICK, NOVA SCOTIA, CAPE CHIGNECTO, BAY OF FUNDY, MINAS CHAN.
65°40.1W	44°58.7N	16/ 9/73	15°54'36	88-086	MAINE, NEW BRUNSWICK, C-100
65°00.2W	47°53.2N	14/ 9/73	17°22'30	40-268	QUEBEC, NEW BRUNSWICK, BAY CHALEUP, BATHURST C-40
65°55.9W	50°01.6N	13/ 9/73	19°43'27	40-220	QUEBEC, SEPTEMBER ISLE, ST. LAWRENCE EST. C-7C
65°44.0W	50°09.2N	10/ 9/73	20°17'26	85-411	QUEBEC, C-99
64°34.5W	42°14.5S	2/ 9/73	14°29'51	84-256	ARGENTINA, GOLFO NUEVO, GOLFO SAN JOSE, GOLFO SAN MATIAS, C-85
64°06.1W	42°01.1S	2/ 9/73	14°29'57	84-257	ARGENTINA, GOLFO NUEVO, GOLFO SAN JOSE, GOLFO SAN MATIAS, C-60
64°24.3W	39°45.5S	1/ 9/73	15°13'53	28-316	ARGENTINA, RIO NEGRO, RIO COLORADO, LAGUNA BLANCA GRANDE
64°35.8W	39°51.1S	1/ 9/73	15°13'50	84-186	ARGENTINA, RIO NEGRO, CONESA
64°10.1W	39°36.9S	1/ 9/73	15°13'57	84-187	ARGENTINA, RIO NEGRO, RIO COLORADO
64°41.7W	30°15.3S	3/ 9/73	15°25'21	34-078	ARGENTINA, SALINAS GRANDES, DEAN FURNES
64°50.0W	29°35.0S	7/ 9/73	13°25'45	85-216	ARGENTINA, SALINAS GRANDES, LOOKING NW
64°35.0W	29°20.0S	7/ 9/73	13°25'50	85-217	ARGENTINA, SALINAS GRANDES, LOOKING NW
64°20.0W	29°07.0S	7/ 9/73	13°25'55	85-218	ARGENTINA, SALINAS GRANDES, RIO DULCE LOOKING NW
64°05.0W	28°52.0S	7/ 9/73	13°26'00	85-219	ARGENTINA, SALINAS GRANDES, RIO DULCE LOOKING NW
64°17.7W	14°17.2S	12/ 8/73	15°03'30	28-270	BOLIVIA, C-95
64°16.7W	14°17.3S	12/ 8/73	15°03'30	85-098	BOLIVIA, C-97
64°00.9W	14°36.5S	12/ 8/73	15°03'37	85-099	BOLIVIA, C-96
64°41.4W	13°48.2S	12/ 8/73	15°03'20	28-269	BOLIVIA, C-95
64°48.0W	13°38.8S	12/ 8/73	15°03'17	85-096	BOLIVIA, C-100
64°32.2W	13°58.1S	12/ 8/73	15°03'23	85-097	BOLIVIA, C-98
64°33.2W	8°33.1S	3/ 8/73	18°19'38	22-068	BRAZIL, AMAZON BASIN, RIO MEDEIRA, C-90
64°24.9W	8°25.7S	8/ 8/73	16°15'15	* 22-369	BRAZIL, RIO MADEIRA, RIO MUCIUM, C-7C
64°01.2W	8°55.2S	8/ 8/73	16°19'25	* 22-370	BRAZIL, PORTO VELHO, RIO MADEIRA, C-75
64°41.1W	8°03.8S	8/ 8/73	16°19'07	83-334	BRAZIL, RIO ITUXI, C-80
64°25.9W	8°23.4S	8/ 8/73	16°19'14	83-335	BRAZIL, RIO MUCIUM, C-75
64°10.4W	8°43.0S	8/ 8/73	16°19'21	83-336	BRAZIL, RIO MADEIRA, PORTO VELHO, C-75
64°48.0W	7°56.2S	8/ 8/73	16°19'05	* 22-368	BRAZIL, RIO PURAS, RIO MUCIUM, C-70
64°55.9W	7°44.3S	8/ 8/73	16°19'01	83-333	BRAZIL, RIO PURUS, RIO ITUXI, LABREA, C-80
64°38.4W	2°08.9S	4/ 8/73	17°34'47	22-147	BRAZIL, AMAZON BASIN, C-75
64°16.0W	2°38.6S	4/ 8/73	17°34'57	22-148	BRAZIL, AMAZON RIVER, C-75
64°34.5W	2°12.9S	4/ 8/73	17°34'49	83-092	BRAZIL, LAGO AMANA, C-70, OVEREXPOSED
64°19.7W	2°32.5S	4/ 8/73	17°34'55	83-093	BRAZIL, LAGO AMANA, C-70, OVEREXPOSED
64°05.2W	2°52.3S	4/ 8/73	17°35'02	83-094	BRAZIL, LAGO URINI, C-65, OVEREXPOSED
64°49.3W	1°53.1S	4/ 8/73	17°34'42	83-091	BRAZIL, RIO CUIUNI, C-75, OVEREXPOSED
64°10.4W	3°36.7N	5/ 8/73	16°50'10	22-269	BRAZIL, VENEZUELA, RIO URARICOERA, C-65
64°18.3W	3°48.4N	5/ 8/73	16°50'06	83-254	VENEZUELA, BRAZIL, SERRA PARIMA, C-45
64°02.5W	3°27.5N	5/ 8/73	16°50'13	83-255	VENEZUELA, BRAZIL, SOURCE OF ORINOCO, C-50
64°55.6W	4°36.7N	5/ 8/73	16°49'50	22-267	VENEZUELA, BRAZIL, SERRA PARIMA, C-7C
64°32.8W	4°06.9N	5/ 8/73	16°50'00	22-268	VENEZUELA, BRAZIL, SERRA PARIMA, C-7C
64°49.6W	4°30.1N	5/ 8/73	16°49'52	83-252	VENEZUELA, BRAZIL, CERRO QUIQUIRITIA, C-85
64°34.2W	4°09.2N	5/ 8/73	16°49'59	83-253	VENEZUELA, BRAZIL, SERRA PARIMA, C-65
64°32.5W	20°25.9N	4/ 9/73	18°06'15	34-231	STORM CRISTINE C-100
64°36.8W	26°34.7N	9/ 8/73	13°51'21	28-043	ATLANTIC OCEAN, C-15
64°40.8W	27°39.6N	13/ 9/73	14°48'47	86-348	ATLANTIC OCEAN, C-100
64°21.3W	27°58.4N	13/ 9/73	14°48'54	86-349	ATLANTIC OCEAN, C-100
64°01.9W	28°17.2N	13/ 9/73	14°49'00	86-350	ATLANTIC OCEAN, C-100
64°11.1W	36°21.2N	19/ 9/73	20°14'34	88-287	ATLANTIC OCEAN, C-98
64°15.7W	43°52.6N	12/ 9/73	17°12'27	40-134	CANADA, NOVA SCOTIA, MAHON BAY, C-60
64°54.6W	45°13.7N	16/ 9/73	15°54'46	46-043	NEW BRUNSWICK, NOVA SCOTIA C-100
64°57.9W	45°02.8N	21/ 9/73	13°53'10	46-314	NEW BRUNSWICK, NOVA SCOTIA, BAY OF FUNDY, MINAS BASIN
64°10.4W	45°19.0N	21/ 9/73	13°53'20	46-315	NEW BRUNSWICK, NOVA SCOTIA, BAY OF FUNDY, TIDAL ACTION, CHIGNECTO BAY
64°45.7W	45°06.3N	21/ 9/73	13°53'12	87-318	NEW BRUNSWICK, NOVA SCOTIA, BAY OF FUNDY, CHIGNECTO BAY, MINAS BASIN
64°14.4W	45°17.0N	21/ 9/73	13°53'19	87-319	NEW BRUNSWICK, NOVA SCOTIA, MINAS BASIN, CHIGNECTO BAY
64°32.5W	45°21.8N	16/ 9/73	15°54'51	88-087	NEW BRUNSWICK, C-100
64°00.5W	49°54.3N	13/ 9/73	19°43'47	40-221	QUEBEC, ANTICOSTI ISLAND C-80
64°25.3W	50°10.8N	15/ 9/73	18°16'13	40-360	QUEBEC, ANTICOSTI IS., GULF OF ST. LAWRENCE, C-60
64°11.3W	50°11.1N	10/ 9/73	20°17'40	85-412	QUEBEC, C-98
63°39.1W	41°48.8S	2/ 9/73	14°30'04	84-258	ARGENTINA, PENINSULA VALDES, C-70
63°11.4W	41°35.6S	2/ 9/73	14°30'10	84-259	ATLANTIC OCEAN, C-70
63°50.3W	39°26.7S	1/ 9/73	15°14'02	28-317	ARGENTINA, LAGUNA BLANCA GRANDE, RIO COLORADO
63°44.4W	39°22.6S	1/ 9/73	15°14'03	84-188	ARGENTINA, RIO COLORADO
63°39.4W	33°17.4S	4/ 9/73	14°41'20	34-160	ARGENTINA, PAMPAS, LA CARLOTA C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
63°42.1W	29°24.4S	3/ 9/73	15°25'41	34-079	ARGENTINA, SALINAS GRANDES, RIO DULCE
63°50.0W	28°37.0S	7/ 9/73	13°26'05	85-220	ARGENTINA, SALINAS GRANDES, RIO DULCE ANATUYA LOOKING NW
63°35.0W	28°23.0S	7/ 9/73	13°26'10	85-221	ARGENTINA, RIO DULCE, SANTIAGO DEL ESTERO, ANATUYA LOOKING NW
63°20.0W	28°10.0S	7/ 9/73	13°26'15	85-222	ARGENTINA, RIO DULCE, SANTIAGO DEL ESTERO, LOOKING NW
63°05.0W	27°57.0S	7/ 9/73	13°26'20	85-223	ARGENTINA, RIO DULCE, ANATUYA, TUCUMAN LOOKING NW
63°29.6W	15°15.2S	12/ 8/73	15°03'50	28-272	BOLIVIA, C-90
63°05.5W	15°44.2S	12/ 8/73	15°04'00	28-273	BOLIVIA, C-90
63°29.2W	15°14.9S	12/ 8/73	15°03'50	85-101	BOLIVIA, C-98
63°13.1W	15°34.0S	12/ 8/73	15°03'56	85-102	BOLIVIA, C-98
63°53.6W	14°46.2S	12/ 8/73	15°03'40	28-271	BOLIVIA, RIO BENI, C-90
63°45.1W	14°55.7S	12/ 8/73	15°03'43	85-100	BOLIVIA, C-98
63°01.5W	10°30.8S	3/ 8/73	18°20'18	22-070	BRAZIL, AMAZON BASIN, C-70
63°10.4W	10°00.9S	8/ 8/73	16°19'47	83-340	BRAZIL, NOVA VIDA, RIO JAMARI, C-75
63°47.4W	9°31.9S	3/ 8/73	18°15'58	22-069	BRAZIL, AMAZON BASIN, C-90
63°37.1W	9°24.7S	8/ 8/73	16°19'35	* 22-371	BRAZIL, PORTO VELHO, RIO MADEIRA, C-75
63°16.4W	9°54.0S	8/ 8/73	16°15'45	* 22-372	BRAZIL, RIO JAMAPI, C-75
63°54.0W	9°02.4S	8/ 8/73	16°19'27	83-337	BRAZIL, RIO MADEIRA, PORTO VELHO, C-75
63°38.1W	9°21.9S	8/ 8/73	16°15'34	83-338	BRAZIL, RIO CANDEIAS, C-75
63°24.3W	9°41.5S	8/ 8/73	16°15'40	83-339	BRAZIL, RIO CANDEIAS, C-75
63°09.1W	4°07.9S	4/ 8/73	17°35'27	22-151	BRAZIL, AMAZON RIVER, LAGO PIORINI, LAGO MAMIA, C-65
63°05.8W	4°11.1S	4/ 8/73	17°35'28	83-098	BRAZIL, LAGO PIORINI, LAGO COARI, LAGO MAMIA, AMAZON, C-50
63°53.6W	3°08.4S	4/ 8/73	17°35'07	22-149	BRAZIL, AMAZON RIVER, C-75
63°31.2W	3°38.3S	4/ 8/73	17°35'17	22-150	BRAZIL, AMAZON RIVER, LAGO PIORINI, LAGO COARI, C-75
63°50.3W	3°11.9S	4/ 8/73	17°35'08	83-095	BRAZIL, LAGO PIORINI, AMAZON, C-6C
63°35.5W	3°31.7S	4/ 8/73	17°35'15	83-096	BRAZIL, LAGO PIORINI, AMAZON, C-6C
63°20.7W	3°51.3S	4/ 8/73	17°35'22	83-097	BRAZIL, LAGO PIORINI, LAGO COARI, LAGO MAMIA, AMAZON, C-50
63°25.6W	2°37.2N	5/ 8/73	16°50'30	22-271	BRAZIL, RIO DEMINI, C-70
63°03.5W	2°07.5N	5/ 8/73	16°50'40	22-272	BRAZIL, RIO DEMINI, C-75
63°31.2W	2°45.8N	5/ 8/73	16°50'27	83-257	VENEZUELA, BRAZIL, SERRA CURUPIRA, C-45
63°15.7W	2°24.8N	5/ 8/73	16°50'34	83-258	BRAZIL, RIO DEMINI, C-70
63°48.0W	3°06.9N	5/ 8/73	16°50'20	22-270	BRAZIL, SERRA COUTO DE MAGALHAES, C-65
63°47.0W	3°06.5N	5/ 8/73	16°50'20	83-256	VENEZUELA, BRAZIL, SOURCE OF ORINOCO, C-55
63°40.4W	21°22.4N	4/ 9/73	18°06'39	34-232	STORM CRISTINE C-90
63°40.4W	25°40.5N	9/ 8/73	13°51'41	28-044	ATLANTIC OCEAN, C-15
63°42.1W	28°35.8N	13/ 9/73	14°45'07	86-351	ATLANTIC OCEAN, C-100
63°22.3W	28°54.6N	13/ 9/73	14°45'13	86-352	ATLANTIC OCEAN, C-100
63°02.5W	29°13.3N	13/ 9/73	14°45'15	86-353	ATLANTIC OCEAN, C-100
63°20.7W	35°47.4N	19/ 9/73	20°14'48	88-288	ATLANTIC OCEAN, C-80
63°18.4W	45°45.3N	16/ 9/73	15°55'06	46-044	NOVA SCOTIA, PRINCE EDWARD IS., NO. CUMBERLAND STRAIT C-65
63°22.3W	45°34.9N	21/ 9/73	13°53'30	46-316	NOVA SCOTIA, NEW BRUNSWICK, PRINCE EDWARD IS., FRURO C-30
63°42.7W	45°27.5N	21/ 9/73	13°53'25	87-320	NEW BRUNSWICK, NOVA SCOTIA, AMHERST, TRURO, COBEQUID BAY
63°11.1W	45°37.9N	21/ 9/73	13°53'32	87-321	NOVA SCOTIA, PRINCE EDWARD I., TRURO, NORTHUMBERLAND STRAIT, C-20
63°24.0W	45°44.2N	16/ 9/73	15°55'05	88-088	NOVA SCOTIA, PRINCE EDWARD I., NEW GLASGOW, N. UMBERLAND CHANNEL, C-60
63°15.1W	47°17.6N	10/ 5/73	18°40'27	85-354	CANADA, QUEBEC, MAGDALEN IS., C-60
63°14.4W	48°15.3N	14/ 9/73	17°22'50	40-269	QUEBEC, GASPE BAY, CAP GASPE C-25
63°49.3W	49°54.5N	13/ 9/73	19°43'45	88-024	ANTICOSTI I., C-85
63°42.7W	50°11.0N	15/ 9/73	18°16'21	87-143	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, MINGAN IS., C-25
62°33.5W	38°43.0S	1/ 9/73	15°14'22	28-318	ARGENTINA, BAHIA BLANCA, PUNTA ALTA, LAGO CHASICO
62°35.0W	32°27.0S	4/ 9/73	14°41'40	34-161	ARGENTINA, PAMPAS, VILLA MARIA
62°41.1W	32°31.9S	4/ 9/73	14°41'38	84-337	ARGENTINA, BELL VILLE
62°20.0W	32°15.4S	4/ 9/73	14°41'45	84-338	ARGENTINA, CANAL SAN ANTONIO
62°42.8W	28°31.5S	3/ 9/73	15°26'01	34-080	ARGENTINA, ANATUYA, RIO SALADO
62°50.0W	27°46.0S	7/ 9/73	13°26'25	85-224	ARGENTINA, RIO DULCE, RIO SALADO, SANTIAGO DEL ESTERO LOOKING NW
62°35.0W	27°32.0S	7/ 9/73	13°26'30	85-225	ARGENTINA, RIO SALADO, TUCUMAN, CAMPO GALLO LOOKING NW
62°20.0W	27°20.0S	7/ 9/73	13°26'35	85-226	ARGENTINA, CAMPO GALLO, GRAN CHACO LOOKING NW
62°05.0W	27°07.0S	7/ 9/73	13°26'40	85-227	ARGENTINA, TACO POZO, GRAN CHACO LOOKING NW
62°41.4W	16°13.0S	12/ 8/73	15°04'10	28-274	BOLIVIA, TRINIDAD, RIO MAMORE C-85
62°16.4W	16°42.4S	12/ 8/73	15°04'20	28-275	BOLIVIA, TRINIDAD, RIO MAMORE C-85
62°41.1W	16°12.2S	12/ 8/73	15°04'10	85-104	BOLIVIA, C-95
62°25.0W	16°13.1S	12/ 8/73	15°04'16	85-105	BOLIVIA, C-96
62°08.8W	16°50.3S	12/ 8/73	15°04'23	85-106	BOLIVIA, C-93
62°57.3W	15°53.1S	12/ 8/73	15°04'03	85-103	BOLIVIA, C-96
62°14.4W	11°30.4S	3/ 8/73	18°20'38	22-071	BRAZIL, AMAZON BASIN, LAND CLEARING AT RONDONIA, C-50
62°07.2W	11°22.2S	8/ 8/73	16°20'15	* 22-375	BRAZIL, BOLIVIA, PIMENTA BUENO, SERRA DOS PARECIS, C-75
62°09.1W	11°18.7S	8/ 8/73	16°20'13	83-344	BRAZIL, SERRA DOS PARECIS, C-75
62°54.6W	10°23.5S	8/ 8/73	16°19'55	* 22-373	BRAZIL, RIO JAMARI, C-75

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
62°30.2W	10°52.8S	8/ 8/73	16°20'05	* 22-374	BRAZIL, RIO JIPARANA, RONDONIA, C-75
62°56.3W	10°20.4S	8/ 8/73	16°19'54	83-341	BRAZIL, NOVA VIDA, RIO JAMARI, C-75
62°39.8W	10°38.8S	8/ 8/73	16°20'00	83-342	BRAZIL, RIO URUPA, C-75
62°24.3W	10°59.3S	8/ 8/73	16°20'07	83-343	BRAZIL, SERRA DOS PARECIS, C-75
62°24.0W	5°07.3S	4/ 8/73	17°35'47	22-153	BRAZIL, LAGO AIAPUA, RIO PURUS, C-60
62°00.9W	5°37.9S	4/ 8/73	17°35'58	22-154	BRAZIL, AMAZON BASIN, C-70
62°21.3W	5°09.9S	4/ 8/73	17°35'48	83-101	BRAZIL, RIO PURUS, C-50
62°06.5W	5°29.5S	4/ 8/73	17°35'55	83-102	BRAZIL, RIO PRETO DO IGAPU-ACO, C-70
62°46.7W	4°37.6S	4/ 8/73	17°35'37	22-152	BRAZIL, AMAZON RIVER, RIO PURUS, LAGO AIAPUA, C-65
62°51.0W	4°30.7S	4/ 8/73	17°35'35	83-099	BRAZIL, LAGO MAMIA, AMAZON, RIO PURUS, C-50
62°36.2W	4°50.3S	4/ 8/73	17°35'41	83-100	BRAZIL, RIO PURUS, C-50
62°40.8W	1°37.4N	5/ 8/73	16°50'50	22-273	BRAZIL, C-90
62°18.7W	1°07.6N	5/ 8/73	16°51'00	22-274	BRAZIL, C-95
62°44.4W	1°43.1N	5/ 8/73	16°50'48	83-260	BRAZIL, C-95
62°28.6W	1°22.2N	5/ 8/73	16°50'55	83-261	BRAZIL, C-97
62°13.1W	1°01.3N	5/ 8/73	16°51'02	83-262	BRAZIL, C-100
62°59.9W	2°04.1N	5/ 8/73	16°50'41	83-259	BRAZIL, C-85
62°47.7W	22°18.8N	4/ 9/73	18°06'59	34-233	STORM CRISTINE C-40
62°45.1W	24°46.0N	9/ 8/73	13°52'01	28-045	ATLANTIC OCEAN, C-15
62°42.4W	29°31.9N	13/ 9/73	14°49'26	86-354	ATLANTIC OCEAN, C-100
62°22.3W	29°50.5N	13/ 9/73	14°49'32	86-355	ATLANTIC OCEAN, C-100
62°01.9W	30°09.0N	13/ 9/73	14°49'35	86-356	ATLANTIC OCEAN, C-100
62°30.6W	35°13.2N	15/ 9/73	20°15'03	88-289	ATLANTIC OCEAN, C-60
62°34.2W	45°50.3N	21/ 9/73	13°53'40	46-317	NOVA SCOTIA, NEW BRUNSWICK, PRINCE EDWARD IS., N. CUMBERLAND STR. C-40
62°39.5W	45°48.0N	21/ 9/73	13°53'38	87-322	NOVA SCOTIA, PRINCE EDWARD I., ANTOGONISH, NORTH CUMBERLAND STRAIT, C-30
62°07.5W	45°58.0N	21/ 9/73	13°53'45	87-323	NOVA SCOTIA, PRINCE EDWARD I., GEORGE BAY, CANSA STRAIT, C-40
62°14.4W	46°05.9N	16/ 9/73	15°55'19	88-089	NOVA SCOTIA, PRINCE EDWARD I., N. CUMBERLAND CHANNEL, C-20
62°13.4W	47°32.8N	10/ 9/73	18°40'35	85-355	CANADA, QUEBEC, MAGDALEN IS., C-60
62°07.5W	49°44.9N	13/ 9/73	19°44'07	40-222	QUEBEC, ANTICOSTI ISLAND, OLD POST POINT C-80
62°27.9W	49°48.1N	13/ 9/73	19°44'03	88-025	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, OLD POST POINT, C-85
62°58.9W	50°12.0N	10/ 9/73	20°17'54	85-413	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, C-90
62°20.0W	50°11.8N	15/ 9/73	18°16'35	87-144	QUEBEC, JACQUES CARTIER PASSAGE, OLD POST POINT, AGUANISH, C-30
61°30.6W	38°05.1S	1/ 9/73	15°14'38	84-189	ARGENTINA, COL. PRINGLES
61°18.4W	37°58.4S	1/ 9/73	15°14'42	28-319	ARGENTINA, PAMPAS, COL. SUAREZ, COL. PRINGLES
61°06.2W	37°50.3S	1/ 9/73	15°14'45	84-190	ARGENTINA, COL. PRINGLES
61°30.9W	31°37.0S	4/ 9/73	14°42'00	34-162	ARGENTINA, RIO PARANA, SANTA FE, PARANA
61°59.3W	31°58.8S	4/ 9/73	14°41'51	84-339	ARGENTINA, SAN JORGE, EL TREBAL
61°38.2W	31°41.8S	4/ 9/73	14°41'58	84-340	ARGENTINA, SAN JORGE, GALVEZ
61°18.1W	31°25.7S	4/ 9/73	14°42'04	84-341	ARGENTINA, SANTA FE, RIO CALCHAQUI, ESPERANZA
61°43.1W	27°37.4S	3/ 9/73	15°26'21	34-081	ARGENTINA, QUILILI, CHACO PLAINS
61°50.0W	26°52.0S	7/ 9/73	13°26'45	85-228	ARGENTINA, TACO POZO, GRAN CHACO LOOKING NW
61°35.0W	26°38.0S	7/ 9/73	13°26'50	85-229	ARGENTINA, TACO POZO, GRAN CHACO C-20
61°20.0W	26°25.0S	7/ 9/73	13°26'55	85-230	ARGENTINA, TACO POZO, GRAN CHACO C-25
61°05.0W	26°10.0S	7/ 9/73	13°27'00	85-231	ARGENTINA, GRAN CHACO C-50
61°02.6W	18°08.4S	12/ 8/73	15°04'50	28-278	BOLIVIA, RIO SAN PABLO C-90
61°03.6W	18°06.2S	12/ 8/73	15°04'49	85-110	BOLIVIA, C-91
61°52.0W	17°11.0S	12/ 8/73	15°04'30	28-276	BOLIVIA, TRINIDAD, RIO MAMORE C-90
61°27.3W	17°39.7S	12/ 8/73	15°04'40	28-277	BOLIVIA, RIO SAN PABLO C-90
61°52.7W	17°09.4S	12/ 8/73	15°04'29	85-107	BOLIVIA, C-94
61°36.5W	17°28.3S	12/ 8/73	15°04'36	85-108	BOLIVIA, C-93
61°20.0W	17°47.3S	12/ 8/73	15°04'43	85-109	BOLIVIA, C-90
61°27.6W	12°28.3S	3/ 8/73	18°20'58	22-072	BRAZIL, AMAZON BASIN
61°19.7W	12°21.7S	8/ 8/73	16°20'35	* 22-377	BRAZIL, BOLIVIA, RIO GUAPORE, SERRA DOS PARECIS, C-50
61°22.7W	12°16.7S	8/ 8/73	16°20'33	83-347	BRAZIL, BOLIVIA, RIO GUAPORE, C-50
61°07.2W	12°36.2S	8/ 8/73	16°20'40	83-348	BRAZIL, BOLIVIA, RIO GUAPORE, C-40
61°43.8W	11°51.5S	8/ 8/73	16°20'25	* 22-376	BRAZIL, BOLIVIA, RIO GUAPORE, C-60
61°53.7W	11°38.0S	8/ 8/73	16°20'20	83-345	BRAZIL, SERRA DOS PARECIS, C-75
61°38.2W	11°57.4S	8/ 8/73	16°20'27	83-346	BRAZIL, RIO APEDIA, C-70
61°38.5W	6°07.6S	4/ 8/73	17°36'08	22-155	BRAZIL, AMAZON BASIN, C-80
61°15.8W	6°37.2S	4/ 8/73	17°36'17	22-156	BRAZIL, AMAZON BASIN, C-90
61°36.5W	6°08.9S	4/ 8/73	17°36'08	83-104	BRAZIL, RIO MADEIRA, C-95
61°21.7W	6°28.5S	4/ 8/73	17°36'14	83-105	BRAZIL, RIO MADEIRA, C-98
61°06.9W	6°48.1S	4/ 8/73	17°36'21	83-106	BRAZIL, C-100
61°51.7W	5°49.3S	4/ 8/73	17°36'01	83-103	BRAZIL, RIO MADEIRA, C-80
61°11.5W	0°21.8S	5/ 8/73	16°51'30	22-277	BRAZIL, C-98
61°26.3W	0°01.2S	5/ 8/73	16°51'23	83-265	BRAZIL, C-100
61°10.5W	0°22.2S	5/ 8/73	16°51'30	83-266	BRAZIL, C-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
61°56.3W	0°37.9N	5/ 8/73	16°51°10	22-275	BRAZIL, C-98
61°33.9W	0°07.7N	5/ 8/73	16°51°20	22-276	BRAZIL, C-100
61°57.3W	0°40.4N	5/ 8/73	16°51°09	83-263	BRAZIL, C-100
61°41.8W	0°19.6N	5/ 8/73	16°51°16	83-264	BRAZIL, C-100
61°27.3W	7°08.3N	2/ 9/73	17°54°16	84-313	VENEZUELA, C-90
61°50.7W	23°50.9N	9/ 8/73	13°52°21	28-046	ATLANTIC OCEAN, C-15
61°54.6W	23°14.7N	4/ 5/73	18°07°19	34-234	ATLANTIC OCEAN C-30
61°00.3W	24°10.4N	4/ 5/73	18°07°39	34-235	ATLANTIC OCEAN C-20
61°41.5W	30°27.4N	13/ 9/73	14°49°45	86-357	ATLANTIC OCEAN, C-100
61°21.0W	30°45.9N	13/ 9/73	14°49°51	86-358	ATLANTIC OCEAN, C-100
61°41.5W	34°38.6N	15/ 9/73	20°15°17	88-290	ATLANTIC OCEAN, C-30
61°40.8W	46°15.3N	16/ 9/73	15°55°26	46-045	NOVA SCOTIA, CAPE BRETON IS., GEORGE BAY, PRINCE EDWARD IS. C-50
61°45.4W	46°05.4N	21/ 9/73	13°53°50	46-318	NOVA SCOTIA, PRINCE EDWARD IS., CAPE BRETON IS. C-70
61°34.9W	46°07.9N	21/ 9/73	13°53°52	87-324	NOVA SCOTIA, PRINCE EDWARD IS., CAPE BRETON IS., C-60
61°02.6W	46°17.6N	21/ 9/73	13°53°58	87-325	NOVA SCOTIA, CAPE BRETON IS., BEAS D'OPE LAKES, GRAND NARROWS, C-60
61°03.9W	46°26.7N	16/ 9/73	15°55°34	88-090	NOVA SCOTIA, CAPE BRETON IS., ST. ANN'S BAY, MARGAREE HARBOR, C-40
61°10.8W	47°47.1N	10/ 9/73	18°40°51	85-356	GULF OF ST. LAWRENCE, NEWFOUNDLAND, STORMY POINT, C-60
61°27.0W	48°35.6N	14/ 9/73	17°23°10	40-270	GULF OF ST. LAWRENCE, ANTICOSTI IS., C-60
61°04.5W	49°39.7N	13/ 9/73	19°44°17	89-026	GULF OF ST. LAWRENCE, C-95
61°35.9W	50°11.6N	10/ 9/73	20°18°09	85-414	QUEBEC, C-98
60°04.9W	37°12.9S	1/ 9/73	15°15°02	28-320	ARGENTINA, PAMPAS, AZUL
60°41.8W	37°35.3S	1/ 9/73	15°14°52	84-191	ARGENTINA, LAPRIDA, C-20
60°17.4W	37°20.2S	1/ 9/73	15°14°58	84-192	ARGENTINA, OLAVARRIA, JUAREZ, C-30
60°58.0W	31°09.2S	4/ 9/73	14°42°11	84-342	ARGENTINA, SANTA FE, RIO CALCHAQUI, ESPERANZA
60°28.0W	30°45.1S	4/ 9/73	14°42°20	34-163	ARGENTINA, SANTA FE, PARANA, RIO PARANA
60°37.5W	30°52.4S	4/ 9/73	14°42°17	84-343	ARGENTINA, RIO CALCHAQUI
60°17.4W	30°35.7S	4/ 9/73	14°42°24	84-344	ARGENTINA, RIO PARANA, LA PAZ
60°45.4W	26°43.4S	3/ 9/73	15°26°41	34-082	ARGENTINA, CHACO PLAINS, PRESIDENTE ROQUE SAENZ PENA
60°50.0W	26°00.0S	7/ 9/73	13°27°05	85-232	ARGENTINA, GRAN CHACO C-60 LOOKING NW
60°35.0W	25°44.0S	7/ 9/73	13°27°10	85-233	ARGENTINA, GRAN CHACO C-75
60°20.0W	25°32.0S	7/ 9/73	13°27°15	85-234	ARGENTINA, GRAN CHACO C-90
60°05.0W	25°20.0S	7/ 9/73	13°27°20	85-235	ARGENTINA, GRAN CHACO C-90
60°14.1W	19°02.8S	12/ 8/73	15°05°09	85-113	BOLIVIA, C-95
60°37.5W	18°36.9S	12/ 8/73	15°05°00	28-279	BOLIVIA, SANTA CRUZ STATE, C-90
60°46.7W	18°25.4S	12/ 8/73	15°04°56	85-111	BOLIVIA, C-92
60°30.6W	18°44.0S	12/ 8/73	15°05°02	85-112	BOLIVIA, C-94
60°40.8W	13°27.1S	3/ 8/73	18°21°18	22-073	BRAZIL, AMAZON BASIN
60°32.0W	13°20.0S	8/ 8/73	16°20°55	* 22-379	BRAZIL, BOLIVIA, SERRANIA, HUANCHACA, C-20
60°56.3W	12°50.8S	8/ 8/73	16°20°45	* 22-378	BRAZIL, BOLIVIA, RIO GUAPORE, SERRA DOS PARECIS, C-30
60°51.7W	12°55.4S	8/ 8/73	16°20°46	83-349	BRAZIL, BOLIVIA, RIO GUAPORE, C-30
60°07.9W	8°06.1S	4/ 8/73	17°36°47	22-159	BRAZIL, AMAZON BASIN, C-80
60°53.3W	7°06.9S	4/ 8/73	17°36°27	22-157	BRAZIL, AMAZON BASIN, C-90
60°30.6W	7°36.4S	4/ 8/73	17°36°37	22-158	BRAZIL, AMAZON BASIN, C-80
60°51.7W	7°07.7S	4/ 8/73	17°36°28	83-107	BRAZIL, C-97
60°36.9W	7°27.2S	4/ 8/73	17°36°34	83-108	BRAZIL, RIO ARIPUANA, C-80
60°21.7W	7°46.8S	4/ 8/73	17°36°41	83-109	BRAZIL, RIO ARIPUANA, C-75
60°26.6W	1°21.8S	5/ 8/73	16°51°50	22-279	BRAZIL, C-90
60°04.6W	1°51.5S	5/ 8/73	16°52°00	22-280	BRAZIL, C-85
60°39.2W	1°04.0S	5/ 8/73	16°51°44	83-268	BRAZIL, C-98
60°23.7W	1°24.9S	5/ 8/73	16°51°51	83-269	BRAZIL, C-98
60°07.9W	1°45.7S	5/ 8/73	16°51°58	83-270	BRAZIL, NORTH OF MANAUS, C-99
60°49.4W	0°51.5S	5/ 8/73	16°51°40	22-278	BRAZIL, C-90
60°55.0W	0°43.1S	5/ 8/73	16°51°37	83-267	BRAZIL, C-100
60°54.7W	7°50.8N	2/ 9/73	17°54°30	84-314	VENEZUELA, C-92
60°22.0W	8°33.2N	2/ 9/73	17°54°45	84-315	VENEZUELA, MOUTH OF ORINOCO, MUDDY WATER INTERFACE, C-83
60°03.9W	21°59.3N	5/ 8/73	13°53°01	28-048	ATLANTIC OCEAN, C-15
60°56.6W	22°55.2N	5/ 8/73	13°52°41	28-047	ATLANTIC OCEAN, C-15
60°36.0W	23°59.0N	1/ 9/73	16°11°05	85-175	PARAGUAY, ARGENTINA, RIO PILCOMAYO LOOKING NW
60°21.0W	23°44.0N	1/ 9/73	16°11°10	85-176	PARAGUAY, ARGENTINA, RIO PILCOMAYO LOOKING NW
60°06.0W	23°28.0N	1/ 9/73	16°11°15	85-177	PARAGUAY, ARGENTINA, RIO PILCOMAYO LOOKING NW
60°51.0W	24°32.0N	1/ 9/73	16°11°00	85-174	ARGENTINA, RIO TUECO, LAS LOMITAS
60°05.2W	25°05.4N	4/ 9/73	18°07°59	34-236	ATLANTIC OCEAN C-20
60°37.9W	30°37.0N	13/ 9/73	14°45°58	86-359	ATLANTIC OCEAN, C-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
60°34.6W	21°16.5N	13/ 9/73	14°50'04	86-360	ATLANTIC OCEAN, C-100
60°18.7W	31°40.9N	13/ 9/73	14°50'11	86-361	ATLANTIC OCEAN, C-100
60°05.6W	33°28.4N	19/ 9/73	20°15'46	88-292	ATLANTIC OCEAN, C-10
60°53.3W	34°03.6N	19/ 9/73	20°15'31	88-291	ATLANTIC OCEAN, C-10
60°00.9W	46°43.8N	16/ 9/73	15°55'46	46-046	NOVA SCOTIA, CAPE BRETON IS., CAPE NORTH C-30
60°56.3W	46°20.1N	21/ 9/73	13°54'00	46-319	NOVA SCOTIA, CAPE BRETON IS., BRAS D'OR LAKE C-70
60°06.5W	46°34.4N	21/ 9/73	13°54'10	46-320	NOVA SCOTIA, CAPE BRETON IS., SYDNEY C-80
60°29.9W	46°27.0N	21/ 9/73	13°54'05	87-326	NOVA SCOTIA, CAPE BRETON I., ST. ANDREWS CHANNEL, SYDNEY GLACE B.C-60
60°13.5W	49°33.6N	13/ 9/73	19°44'27	40-223	QUEBEC, GULF OF ST. LAWRENCE C-50
60°08.2W	50°10.5N	10/ 9/73	20°18'23	85-415	QUEBEC, HARRINGTON HARBOR, ST. MARY'S IS., C-40
60°57.3W	50°11.5N	15/ 9/73	18°16'45	87-145	QUEBEC, WOLF BAY, MACKENZIE HARBOUR, MUSQUARO POINT, C. WHITTEL, C-20
59°53.7W	37°05.0S	1/ 9/73	15°15'05	84-193	ARGENTINA, OLAVARRIA, AZUL, C-30
59°29.6W	36°49.7S	1/ 9/73	15°15'11	84-194	ARGENTINA, AZUL, RAUCH, TANDIL, C-25
59°05.9W	36°34.3S	1/ 9/73	15°15'18	84-195	ARGENTINA, RAUCH, C-15
59°57.3W	30°18.8S	4/ 9/73	14°42'30	84-345	ARGENTINA, RIO PARANA, LA PAZ, ESQUINA
59°26.7W	29°53.2S	4/ 9/73	14°42'40	34-164	ARGENTINA, RIO PARANA, LA PAZ, PARANA
59°49.4W	25°49.7S	3/ 9/73	15°27'01	34-083	ARGENTINA, RIO TUECO, RIO MUERTO, CHACO PLAINS
59°50.0W	25°07.0S	7/ 9/73	18°16'25	85-236	ARGENTINA, PARAGUAY, C-98 LOOKING NW
59°35.0W	24°54.0S	7/ 9/73	13°27'30	85-237	ARGENTINA, PARAGUAY, C-95 LOOKING NW
59°20.0W	24°37.0S	7/ 9/73	13°27'35	85-238	PARAGUAY, ARGENTINA, GRAN CHACO C-90 LOOKING NW
59°05.0W	24°20.0S	7/ 9/73	13°27'40	85-239	PARAGUAY, ARGENTINA, GRAN CHACO C-70 LOOKING NW
59°52.0W	23°28.0S	1/ 9/73	16°11'20	85-178	PARAGUAY, RIO VERDE LOOKING NW
59°39.0W	23°12.0S	1/ 9/73	16°11'25	85-179	PARAGUAY, RIO VERDE LOOKING NW
59°26.0W	22°57.0S	1/ 9/73	16°11'30	85-180	PARAGUAY, COLONIA, MENNONITA LOOKING NW
59°12.0W	22°41.0S	1/ 9/73	16°11'35	85-181	PARAGUAY, COLONIA, MENNONITA LOOKING NW
59°06.9W	20°17.8S	12/ 8/73	15°05'35	85-118	BOLIVIA, PARAGUAY, C-100
59°57.3W	19°21.6S	12/ 8/73	15°05'16	85-114	BOLIVIA, C-95
59°52.8W	19°26.2S	12/ 8/73	15°05'19	85-115	BOLIVIA, PARAGUAY, C-98
59°40.5W	19°40.3S	12/ 8/73	15°05'22	85-116	BOLIVIA, PARAGUAY, C-99
59°23.7W	19°59.1S	12/ 8/73	15°05'29	85-117	BOLIVIA, PARAGUAY, C-99
59°04.6W	15°23.9S	3/ 8/73	18°21'58	22-075	BRAZIL, BOLIVIA, SIERRA DOS PARECIS
59°52.7W	14°26.1S	3/ 8/73	18°21'38	22-074	BRAZIL, BOLIVIA, SIERRA DOS PARECIS
59°45.1W	14°18.2S	8/ 8/73	16°21'15	* 22-380	BRAZIL, BOLIVIA, SERRANIA HUANCHACA, C-20
59°22.4W	14°44.9S	8/ 8/73	16°21'24	83-350	BRAZIL, BOLIVIA, RIO GUAPORE,
59°45.1W	8°35.7S	4/ 8/73	17°36'57	22-160	BRAZIL, AMAZON BASIN, C-70
59°42.5W	2°21.0S	5/ 8/73	16°52'10	22-281	BRAZIL, C-80
59°49.1W	9°15.5N	2/ 9/73	17°54'59	84-316	ATLANTIC OCEAN, C-70
59°16.1W	9°57.9N	2/ 9/73	17°55'13	84-317	ATLANTIC OCEAN, C-75
59°11.8W	21°03.5N	5/ 8/73	13°53'21	28-049	ATLANTIC OCEAN, C-15
59°09.2W	26°00.1N	4/ 9/73	18°08'19	34-237	ATLANTIC OCEAN, C-20
59°57.6W	31°58.9N	13/ 9/73	14°50'17	86-362	ATLANTIC OCEAN, C-100
59°36.2W	32°17.0N	13/ 9/73	14°50'23	86-363	ATLANTIC OCEAN, C-100
59°18.8W	32°52.6N	19/ 9/73	20°16'00	88-293	ATLANTIC OCEAN, C-12
59°36.2W	45°33.1N	12/ 9/73	17°13'27	40-135	CLOUDS OVER WATER C-70
59°16.8W	46°48.3N	21/ 9/73	13°54'20	46-321	NOVA SCOTIA, C-90
59°57.0W	46°36.4N	21/ 9/73	13°54'11	87-327	NOVA SCOTIA, CAPE BRETON I., SYDNEY HARBOR, C-75
59°24.0W	46°45.6N	21/ 9/73	13°54'18	87-328	ATLANTIC OCEAN, C-90
59°52.4W	46°46.8N	16/ 9/73	15°55'48	88-091	NOVA SCOTIA, CAPE BRETON I., CAPE NORTH SMELT BROOK, C-20
59°38.9W	48°54.0N	14/ 9/73	17°23'30	40-271	GULF OF ST. LAWRENCE, NEWFOUNDLAND C-60
59°43.8W	49°30.8N	13/ 9/73	19°44'32	88-027	GULF OF ST. LAWRENCE, C-90
59°34.9W	50°10.0N	15/ 9/73	18°17'03	87-146	QUEBEC, HA HA BAY, LITTLE MEGATIWA R., MUTTON BAY, C-75
58°45.5W	39°17.8S	2/ 9/73	14°31'17	34-015	ARGENTINA, ATLANTIC OCEAN, DELOCHEA, C-19
58°52.1W	36°26.1S	1/ 9/73	15°15'22	28-321	ARGENTINA, PAMPAS, LAS FLORES
58°42.5W	36°18.8S	1/ 9/73	15°15'25	84-196	ARGENTINA, UDAQUITOLA, CANAL, 11
58°19.1W	36°03.4S	1/ 9/73	15°15'31	84-197	ARGENTINA, GENERAL BELGRANO, CANAL 11
58°26.7W	29°00.8S	4/ 9/73	14°43'00	34-165	ARGENTINA, RIO PARANA, LA PAZ, RECONQUISTA, GOYA
58°22.4W	29°01.0S	29/ 8/73	17°27'49	85-143	ARGENTINA, RIO PARANA, MERCEDES LOOKING SE
58°12.2W	28°51.1S	29/ 8/73	17°27'52	85-144	ARGENTINA, RIO PARANA, RIO CORRIENTES LOOKING SE
58°02.6W	28°41.6S	29/ 8/73	17°27'55	85-145	ARGENTINA, RIO CORRIENTES LOOKING SE
58°54.0W	24°55.1S	3/ 9/73	15°27'21	34-084	ARGENTINA-PARAGUAY, CHOCO PLAINS, RIO CONFLUO

LONGITUDE DD°MM.H	LATITUDE DD°MM.H	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
58°26.7W	24°27.8S	3/ 9/73	15°27'31	34-085	PARAGUAY-ARGENTINA, RIO CONFUSO, CHOCO PLAINS
58°50.0W	24°10.0S	7/ 9/73	13°27'45	85-240	PARAGUAY, ARGENTINA, GRAN CHACO C-55 LOOKING NW
58°35.0W	24°00.0S	7/ 9/73	13°27'50	85-241	PARAGUAY, ARGENTINA, GRAN CHACO C-35 LOOKING NW
58°20.0W	23°45.0S	7/ 9/73	13°27'55	85-242	PARAGUAY, ARGENTINA, GRAN CHACO C-20 LOOKING NW
58°05.0W	23°32.0S	7/ 9/73	13°28'00	85-243	PARAGUAY, GRAN CHACO LOOKING NW
58°59.0W	22°25.0S	1/ 9/73	16°11'40	85-182	PARAGUAY, COLONIA, MENNONITA LOOKING NW
58°45.0W	22°06.0S	1/ 9/73	16°11'45	85-183	PARAGUAY, BRAZIL, RIO PARAGUAI LOOKING NW
58°15.8W	21°13.8S	12/ 8/73	15°05'55	85-121	PARAGUAY, BRAZIL, C-100
58°31.0W	21°49.0S	1/ 9/73	16°11'50	85-184	PARAGUAY, BRAZIL, ARGENTIA, RIO PARAGUAI, PORTO MURTINNO LOOKING NW
58°16.0W	21°32.0S	1/ 9/73	16°11'55	85-185	PARAGUAY, BRAZIL, ARGENTIA, RIO PARAGUAI, PORTO MURTINNO LOOKING NW
58°02.0W	21°16.0S	1/ 9/73	16°12'00	85-186	PARAGUAY, BRAZIL, ARGENTIA, RIO PARAGUAI, PORTO MURTINNO LOOKING NW
58°49.7W	20°36.5S	12/ 8/73	15°05'42	85-119	PARAGUAY, BRAZIL, C-100
58°32.9W	20°55.2S	12/ 8/73	15°05'49	85-120	PARAGUAY, BRAZIL, C-100
58°16.1W	16°21.8S	3/ 8/73	18°22'18	22-076	BRAZIL, BOLIVIA, PARAGUAI R SIERRA STA. BARBARA
58°08.9W	16°14.0S	8/ 8/73	16°21'55	* 22-382	BRAZIL, BOLIVIA, RIO PARAGUAI, C-15
58°57.3W	15°16.2S	8/ 8/73	16°21'35	* 22-381	BRAZIL, SERRA DE SANTA BARBARA, C-15
58°40.8W	15°35.0S	8/ 8/73	16°21'41	83-351	BRAZIL, RIO JANURU, SERRA SANTA BARBARA
58°12.5W	4°20.6S	5/ 8/73	16°52'50	22-283	BRAZIL, RIO ABACAXIS, RIO MARIMARI, C-6C
58°57.3W	3°20.8S	5/ 8/73	16°52'30	22-282	BRAZIL, AMAZON R., JUNCTION WITH RIO MADEIRA, C-70
58°34.3W	10°50.6N	2/ 9/73	17°55'31	34-062	ATLANTIC OCEAN, C-30
58°43.2W	10°40.1N	2/ 9/73	17°55'28	84-318	ATLANTIC OCEAN, C-50
58°09.5W	11°22.4N	2/ 9/73	17°55'42	84-319	ATLANTIC OCEAN, C-40
58°32.3W	32°16.5N	19/ 5/73	20°16'14	88-294	ATLANTIC OCEAN, C-18
58°50.7W	46°54.5N	21/ 5/73	13°54'25	87-329	ATLANTIC OCEAN, C-98
58°20.4W	47°10.5N	16/ 9/73	15°56'06	46-047	NEWFOUNDLAND, CABOT STRAIT, CAPE RAY C-30
58°26.0W	47°01.8N	21/ 9/73	13°54'30	46-322	ATLANTIC OCEAN C-95
58°17.4W	47°03.4N	21/ 9/73	13°54'31	87-330	ATLANTIC OCEAN, C-95
58°40.2W	47°06.1N	16/ 9/73	15°56'02	88-092	NEWFOUNDLAND, CAPE RAY, CABOT STRAIT
58°22.4W	49°20.2N	13/ 5/73	19°44'47	40-224	GULF OF ST. LAWRENCE, NEWFOUNDLAND, CORNER BROOK C-75
58°23.1W	49°21.0N	13/ 9/73	19°44'46	88-028	NEWFOUNDLAND, CORNER BROOK, BAY OF ISLANDS, C-70
58°12.5W	50°07.5N	15/ 9/73	18°17'18	87-147	NEWFOUNDLAND, LONG RANGE MTS., C-80
57°41.9W	35°38.8S	1/ 9/73	15°15'42	28-322	ARGENTINA, PAMPAS, RIO DE LA PLATA, LA PLATA, GEN. PAZ
57°56.0W	35°47.7S	1/ 9/73	15°15'38	84-198	ARGENTINA, BAHIA SAMBOROMBON, CANAL 11
57°33.0W	35°32.0S	1/ 9/73	15°15'44	84-199	ARGENTINA, RIO DE LA PLATA, VERONICA, PUNTA INDIO
57°09.9W	35°16.2S	1/ 9/73	15°15'51	84-200	ARGENTINA, RIO DE LA PLATA, PUNTA INDIO
57°27.4W	28°07.8S	4/ 9/73	14°43'20	34-166	ARGENTINA-PARAGUAY, RIO PARANA, CHACO
57°52.1W	28°31.3S	29/ 8/73	17°27'58	85-146	ARGENTINA, RIO CORRIENTES LOOKING SE
57°42.5W	28°21.3S	29/ 8/73	17°28'02	85-147	ARGENTINA, RIO CORRIENTES LOOKING SE
57°32.6W	28°11.4S	29/ 8/73	17°28'05	85-148	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
57°23.1W	28°01.5S	29/ 8/73	17°28'08	85-149	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
57°16.1W	27°54.6S	29/ 8/73	17°28'11	85-150	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
57°06.3W	27°44.5S	29/ 8/73	17°28'14	85-151	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
57°59.3W	24°00.1S	3/ 9/73	15°27'41	34-086	PARAGUAY, CHACO PLAINS, RIO NEGRO, RIO PARAGUAY
57°32.3W	23°32.5S	3/ 9/73	15°27'51	34-087	PARAGUAY, CONCEPCION, RIO PARAGUAY, CHACO PLAINS
57°05.3W	23°04.4S	3/ 9/73	15°28'01	34-088	PARAGUAY, RIO PARAGUAY, CONCEPCION, CHACO PLAINS
57°50.0W	23°18.0S	7/ 9/73	13°28'05	85-244	PARAGUAY, CONCEPCION, RIO PARAGUAY LOOKING NW
57°35.0W	23°06.0S	7/ 9/73	13°28'10	85-245	PARAGUAY, CONCEPCION, RIO PARAGUAY LOOKING NW
57°24.1W	22°09.3S	12/ 8/73	15°06'15	85-124	PARAGUAY, BRAZIL, C-100
57°06.6W	22°27.9S	12/ 8/73	15°06'22	85-125	PARAGUAY, BRAZIL, C-100
57°20.0W	22°55.0S	7/ 9/73	13°28'15	85-246	PARAGUAY, BRAZIL, RIO PARAGUAY
57°58.7W	21°32.4S	12/ 8/73	15°06'02	85-122	PARAGUAY, BRAZIL, C-100
57°41.2W	21°50.9S	12/ 8/73	15°06'08	85-123	PARAGUAY, BRAZIL, C-100
57°48.0W	21°01.0S	1/ 9/73	16°12'05	85-187	PARAGUAY, BRAZIL, RIO PARANA, PUERTO OLIMPO LOOKING NW
57°34.0W	20°46.0S	1/ 9/73	16°12'10	85-188	PARAGUAY, BRAZIL, RIO PARANA, PUERTO OLIMPO LOOKING NW
57°21.0W	20°31.0S	1/ 9/73	16°12'15	85-189	PARAGUAY, BRAZIL, RIO PARANA, RIO AZUIDABA
57°10.0W	20°16.0S	1/ 9/73	16°12'20	85-190	BRAZIL, SERRA DA BODQUENA, BONITO
57°26.4W	17°20.1S	3/ 8/73	18°22'38	22-077	BRAZIL, BOLIVIA, MANDIORE, GAIBA, UBERABA LAKES, PARAGUAI R.
57°20.1W	17°12.5S	8/ 8/73	16°22'15	* 22-383	BRAZIL, BOLIVIA, RIO PARAGUAI, LAGUNA MANDIORE
57°17.8W	17°14.3S	8/ 8/73	16°22'15	83-353	BRAZIL, MATO GROSSO SWAMPS, RIO LOUPENCO
57°59.0W	16°24.7S	8/ 8/73	16°21'58	83-352	BRAZIL, RIO PARAGUAI, MATO GROSSO SWAMPS, CACERES
57°27.7W	5°19.8S	5/ 8/73	16°53'10	22-284	BRAZIL, C-75
57°22.7W	12°19.1N	2/ 9/73	17°56'01	34-063	ATLANTIC OCEAN, C-25
57°34.9W	12°04.6N	2/ 9/73	17°55'56	84-320	ATLANTIC OCEAN, C-35
57°02.6W	12°46.5N	2/ 9/73	17°56'10	84-321	ATLANTIC OCEAN, C-55
57°46.5W	31°40.1N	19/ 9/73	20°16'29	88-295	ATLANTIC OCEAN, C-16

LONGITUDE DDD°MM.M	LATITUDE DDD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
57°01.6W	31°03.5N	19/ 9/73	20°16'43	88-296	ATLANTIC OCEAN, C-15
57°35.3W	47°14.8N	21/ 9/73	13°54'40	46-323	ATLANTIC OCEAN C-98
57°43.8W	47°12.0N	21/ 9/73	13°54'38	87-331	ATLANTIC OCEAN, C-95
57°09.9W	47°20.4N	21/ 9/73	13°54'44	87-332	ATLANTIC OCEAN, C-98
57°48.8W	49°10.5N	14/ 9/73	17°23'50	40-272	NEWFOUNDLAND, CORNERBROOK, BAY OF ISLANDS C-60
57°03.3W	49°10.2N	13/ 9/73	19°45'01	88-029	NEWFOUNDLAND, RED INDIAN LAKE, C-85
56°46.8W	35°00.1S	1/ 9/73	15°15'58	84-201	ARGENTINA, URUGUAY, RIO DE LA PLATA
56°32.3W	34°50.5S	1/ 9/73	15°16'02	28-323	URUGUAY, MONTEVIDEO, RIO DE LA PLATA
56°24.7W	34°44.3S	1/ 9/73	15°16'04	84-202	URUGUAY, MONTEVIDEO, SANTA LUCIA
56°02.0W	34°28.1S	1/ 9/73	15°16'11	84-203	URUGUAY, MONTEVIDEO, SAN RAMON, SANTA LUCIA
56°57.4W	27°40.2S	4/ 9/73	14°43'30	34-167	ARGENTINA-PARAGUAY, RIO PARANA, CHACO
56°28.4W	27°13.4S	4/ 9/73	14°43'40	34-168	ARGENTINA-PARAGUAY, RIO PARANA, POSADAS, ENCARNACION
56°56.7W	27°34.6S	29/ 8/73	17°28'17	85-152	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
56°46.8W	27°24.6S	29/ 8/73	17°28'21	85-153	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
56°37.3W	27°14.7S	29/ 8/73	17°28'24	85-154	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
56°27.7W	27°04.6S	29/ 8/73	17°28'27	85-155	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
56°00.7W	26°47.2S	4/ 9/73	14°43'50	34-169	ARGENTINA-PARAGUAY, RIO PARANA, POSADAS, ENCARNACION
56°17.8W	26°54.6S	29/ 8/73	17°28'30	85-156	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
56°08.3W	26°44.7S	29/ 8/73	17°28'34	85-157	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
56°31.3W	23°04.7S	12/ 8/73	15°06'35	85-127	PARAGUAY, C-100
56°13.5W	23°23.0S	12/ 8/73	15°06'41	85-128	PARAGUAY, C-100
56°38.6W	22°36.5S	3/ 9/73	15°28'11	34-089	PARAGUAY-BRAZIL, PONTA PORA, SERRA DE AMAMBAI
56°11.9W	22°08.5S	3/ 9/73	15°28'21	34-090	PARAGUAY-BRAZIL, PONTA PORA, BELA VISTA
56°49.1W	22°46.4S	12/ 8/73	15°06'28	85-126	PARAGUAY, BRAZIL, C-100
56°35.0W	22°16.0S	7/ 9/73	13°28'28	85-247	PARAGUAY, BRAZIL, RIO PARAGUAY
56°59.0W	20°01.0S	1/ 9/73	16°12'25	85-191	BRAZIL, RIO MIRANDA
56°37.6W	18°18.3S	3/ 8/73	18°22'58	22-078	BRAZIL, BOLIVIA, MATO GROSSO SWAMP
56°28.4W	18°09.7S	8/ 8/73	16°22'35	* 22-384	BRAZIL, MATO GROSSO SWAMP
56°33.0W	18°03.6S	8/ 8/73	16°22'33	83-354	BRAZIL, MATO GROSSO SWAMPS, RIO TAQUARI
56°42.5W	6°19.3S	5/ 8/73	16°53'30	22-285	BRAZIL, C-80
56°12.9W	13°46.8N	2/ 9/73	17°56'31	34-064	ATLANTIC OCEAN, C-35
56°28.7W	13°28.3N	2/ 9/73	17°56'25	84-322	ATLANTIC OCEAN, C-65
56°17.2W	30°26.4N	19/ 9/73	20°16'57	88-297	ATLANTIC OCEAN, C-25
56°37.3W	47°35.7N	16/ 9/73	15°56'26	46-048	NEWFOUNDLAND, C-90
56°32.3W	49°05.1N	13/ 9/73	19°45'06	40-225	NEWFOUNDLAND, NOTRE DAME BAY, RED INDIAN LAKE C-40
56°50.1W	50°04.1N	15/ 9/73	18°17'32	87-148	NEWFOUNDLAND, LONG PANGE MTS., BLUE POND, WHITE BAY, C-85
55°25.1W	34°02.1S	1/ 9/73	15°16'22	28-324	URUGUAY, MINAS
55°40.2W	34°12.3S	1/ 9/73	15°16'17	84-204	URUGUAY, SAN RAMON, MINAS
55°17.8W	33°56.0S	1/ 9/73	15°16'24	84-205	URUGUAY, MINAS, CUCHILLA GRANDE
55°31.3W	26°19.5S	4/ 9/73	14°44'00	34-170	ARGENTINA-PARAGUAY, RIO PARANA
55°58.7W	26°34.6S	29/ 8/73	17°28'37	85-158	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
55°49.1W	26°24.6S	29/ 8/73	17°28'40	85-159	ARGENTINA, PARAGUAY, RIO PARANA POSADAS LOOKING SE
55°39.6W	26°14.5S	29/ 8/73	17°28'44	85-160	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
55°30.0W	26°04.5S	29/ 8/73	17°28'47	85-161	ARGENTINA, PARAGUAY, RIO PARANA LOOKING SE
55°04.3W	25°53.3S	4/ 9/73	14°44'10	34-171	ARGENTINA-PARAGUAY-BRAZIL, RIO PARANA, FALLS OF THE IGUAZU
55°20.5W	25°54.6S	29/ 8/73	17°28'50	85-162	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
55°11.2W	25°44.5S	29/ 8/73	17°28'54	85-163	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
55°01.7W	25°34.5S	29/ 8/73	17°28'57	85-164	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
55°56.1W	23°41.3S	12/ 8/73	15°06'48	85-129	PARAGUAY, BRAZIL, C-100
55°37.9W	23°59.6S	12/ 8/73	15°06'55	85-130	PARAGUAY, BRAZIL, C-100
55°45.2W	21°39.8S	3/ 9/73	15°28'31	34-091	BRAZIL, MATO GROSSO, SERRA DE MARACAJU
55°20.1W	21°12.6S	3/ 9/73	15°28'41	34-092	BRAZIL, MATO GROSSO, SERRA DE MARACAJU
55°46.8W	19°13.5S	3/ 8/73	18°23'18	22-079	BRAZIL, MATO GROSSO SWAMP
55°39.9W	19°06.9S	8/ 8/73	16°23'07	* 22-385	BRAZIL, MATO GROSSO SWAMP SERRA DE MARACAJU
55°07.6W	19°42.0S	8/ 8/73	16°23'07	83-356	BRAZIL, MATO GROSSO, ROCHEDO
55°51.1W	18°53.1S	8/ 8/73	16°22'50	83-355	BRAZIL, MATO GROSSO SWAMPS
55°11.2W	8°15.8S	5/ 8/73	16°54'10	22-287	BRAZIL, C-85
55°57.0W	7°19.1S	5/ 8/73	16°53'50	22-286	BRAZIL, C-85
55°53.8W	14°10.0W	2/ 9/73	17°56'39	84-323	ATLANTIC OCEAN, C-70
55°20.1W	14°52.3N	2/ 9/73	17°56'53	84-324	ATLANTIC OCEAN, C-85
55°33.3W	29°49.2N	19/ 9/73	20°17'11	88-298	ATLANTIC OCEAN, C-70
55°43.9W	48°58.3N	13/ 9/73	19°45'15	88-030	NEWFOUNDLAND, BOTHWOOD, BAY OF EXPLOITS, GRAND FALLS, C-30
55°56.1W	49°25.3N	14/ 9/73	17°24'10	40-273	NEWFOUNDLAND, WHITE BAY, NOTRE DAME BAY, GRAND FALLS C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
55°28.0W	49°59.4N	15/ 9/73	18°17'46	87-149	NEWFOUNDLAND, NEW WORLD ISLANDS, NOTRE DAME BAY, C-50
54°18.8W	33°12.6S	1/ 9/73	15°16'42	28-325	URUGUAY, BRAZIL, TREINTA-Y-TRES, LAGUNA MERIM
54°56.1W	33°39.7S	1/ 9/73	15°16'31	84-206	URUGUAY, RETAMOSA
54°34.0W	33°23.3S	1/ 9/73	15°16'37	84-207	URUGUAY, TRIENTA Y TRES
54°12.6W	33°06.9S	1/ 9/73	15°16'44	84-208	URUGUAY, BRAZIL, LAGOA MIRIM
54°36.3W	25°25.9S	4/ 9/73	14°44'20	34-172	ARGENTINA-PARAGUAY-BRAZIL, IGUAZU FALLS, RIO PARANA
54°52.1W	25°24.3S	29/ 8/73	17°29'00	85-165	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
54°42.9W	25°14.2S	29/ 8/73	17°29'03	85-166	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
54°33.7W	25°04.2S	29/ 8/73	17°29'07	85-167	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
54°08.3W	24°58.2S	4/ 9/73	14°44'30	34-173	BRAZIL-PARAGUAY-ARGENTINA, RIO IGUAZU, RIO PARANA
54°24.1W	24°54.0S	29/ 8/73	17°29'10	85-168	BRAZIL, PARAGUAY, IGUAZU FALLS, RIO PARANA LOOKING SE
54°14.9W	24°43.9S	29/ 8/73	17°29'13	85-169	PARAGUAY, BRAZIL, ASUNCION, RIO PARAGUAY, LOOKING SE
54°05.7W	24°33.8S	29/ 8/73	17°29'17	85-170	PARAGUAY, BRAZIL, ASUNCION, RIO PARAGUAY, LOOKING SE
54°49.2W	20°03.6S	8/ 8/73	16°23'15	* 22-386	BRAZIL, CAMPO GRANDE, SERRA MARACAJU
54°54.1W	20°44.5S	3/ 9/73	15°28'51	34-093	BRAZIL, CAMPO GRANDE, MATO GROSSO
54°27.4W	20°15.0S	3/ 9/73	15°29'01	34-094	BRAZIL, CAMPO GRANDE, MATO GROSSO
54°23.8W	20°30.8S	8/ 8/73	16°23'24	83-357	BRAZIL, MATO GROSSO, CAMPO GRANDE
54°20.0W	20°20.0S	7/ 9/73	13°25'03	85-248	BRAZIL
54°00.0W	18°00.0S	1/ 9/73	16°13'08	85-192	BRAZIL, NO. OF BRAZILIAN CLOUDS, HAZE C-50
54°26.1W	9°18.4S	5/ 8/73	16°54'30	22-288	BRAZIL, C-65
54°59.7W	15°14.6N	2/ 9/73	17°57'01	34-065	ATLANTIC OCEAN, C-60
54°45.5W	15°33.6N	2/ 9/73	17°57'08	84-325	ATLANTIC OCEAN, C-85
54°10.9W	16°15.1N	2/ 9/73	17°57'22	84-326	ATLANTIC OCEAN, C-93
54°30.4W	28°54.0N	19/ 9/73	20°17'32	88-300	ATLANTIC OCEAN, C-95
54°10.6W	28°36.5N	19/ 9/73	20°17'39	88-301	ATLANTIC OCEAN, C-85
54°49.8W	29°11.4N	19/ 9/73	20°17'26	88-299	ATLANTIC OCEAN, C-100
54°41.9W	48°47.8N	13/ 9/73	19°45'27	40-226	NEWFOUNDLAND, BONAVISTA BAY, GANDER AFB
54°25.4W	48°45.6N	13/ 9/73	19°45'25	88-031	NEWFOUNDLAND, BONAVISTA BAY, DARK COVE, TERRANCEVA NAT. PARK, C-30
54°02.7W	49°38.0N	14/ 9/73	17°24'31	40-274	NEWFOUNDLAND, GANDER, FOGO IS., HAMILTON SOUND C-20
54°06.3W	49°53.8N	19/ 9/73	18°18'01	87-150	NEWFOUNDLAND, FOGO I., HAMILTON SOUND, WADHAM IS., C-30
53°46.5W	32°47.7S	1/ 9/73	15°16'52	28-326	URUGUAY, BRAZIL, LAGOA MARIM
53°13.9W	32°22.5S	1/ 9/73	15°17'02	28-327	URUGUAY, BRAZIL, LAGOA MARIM, JAGUARAO
53°50.8W	32°50.4S	1/ 9/73	15°16'50	84-209	URUGUAY, BRAZIL, LAGOA MIRIM JAGUARAO
53°29.4W	32°33.7S	1/ 9/73	15°16'57	84-210	URUGUAY, BRAZIL, LAGOA MIRIM JAGUARAO
53°08.3W	32°17.1S	1/ 9/73	15°17'04	84-211	URUGUAY, BRAZIL, LAGOA MIRIM JAGUARAO
53°08.6W	31°57.3S	1/ 9/73	15°17'12	28-328	BRAZIL, LAGOA MARIM, RIO GRANDE, PELOTAS, LAGOA DOS PATOS
53°40.6W	24°30.7S	4/ 9/73	14°44'40	34-174	BRAZIL-PARAGUAY, RIO PARANA, RIO IGUAZU, RIO PIOLIRI
53°22.1W	24°11.3S	4/ 9/73	14°44'47	84-346	BRAZIL, RIO PIOLIRI
53°56.5W	24°23.7S	29/ 8/73	17°29'20	85-171	BRAZIL, RIO PARANA, RIO PARANAPANEMA, PRES. PRUDENTE LOOKING SE
53°45.3W	24°13.6S	29/ 8/73	17°29'23	85-172	BRAZIL, RIO PARANA, RIO PARANAPANEMA, PRES. PRUDENTE LOOKING SE
53°36.1W	24°03.5S	29/ 8/73	17°29'27	85-173	BRAZIL, RIO PARANA, RIO PARANAPANEMA, PRES. PRUDENTE LOOKING SE
53°59.0W	21°00.0S	8/ 8/73	16°23'35	* 19-387	BRAZIL, RIO PARANA, RIO LONTRU
53°09.0W	21°57.0S	8/ 8/73	16°23'55	* 19-388	BRAZIL, RIO PARANA, RIO PARANAPANEMA
53°39.0W	21°19.4S	8/ 8/73	16°23'41	83-358	BRAZIL, MATO GROSSO, RIO PARDO
53°37.3W	19°18.9S	3/ 9/73	15°29'21	34-095	BRAZIL, CAMPANIA, MATO GROSSO
53°54.0W	17°54.0S	1/ 9/73	16°13'10	85-193	BRAZIL, NO. OF BRAZILIAN CLOUDS, HAZE C-55
53°45.0W	17°45.0S	1/ 9/73	16°13'13	85-194	BRAZIL, NO. OF BRAZILIAN CLOUDS, HAZE C-60
53°39.6W	10°16.6S	5/ 8/73	16°54'50	22-289	BRAZIL, RIO XINGU, C-10
53°47.5W	16°41.6N	2/ 9/73	17°57'31	34-066	ATLANTIC OCEAN, C-90
53°35.7W	16°56.4N	2/ 9/73	17°57'36	84-327	ATLANTIC OCEAN, C-100
53°00.4W	17°37.6N	2/ 9/73	17°57'51	84-328	ATLANTIC OCEAN, C-100
53°51.1W	28°19.0N	19/ 9/73	20°17'46	88-302	ATLANTIC OCEAN, C-75
53°08.3W	47°23.5N	12/ 9/73	17°14'45	40-136	CANADA, NEWFOUNDLAND, AVALON PEN., ST. JOHN'S
52°00.7W	35°02.1S	2/ 9/73	14°33'08	84-260	ATLANTIC OCEAN OFF MOUTH OF PLATA
52°47.2W	32°00.4S	1/ 9/73	15°17'10	84-212	BRAZIL, RIO GRANDE, PELOTAS, LAGOA MIRIM
52°10.3W	31°31.8S	1/ 9/73	15°17'22	28-329	BRAZIL, PELOTAS, RIO GRANDE, LAGOA DOS PATOS
52°39.4W	31°43.6S	1/ 9/73	15°17'17	84-213	BRAZIL, LAGOA DOS PATOS, RIO GRANDE, PELOTAS
52°05.4W	31°26.8S	1/ 9/73	15°17'23	84-214	BRAZIL, LAGOA DOS PATOS, PELOTAS
52°46.6W	23°35.5S	4/ 9/73	14°45'00	34-175	BRAZIL, RIO ALANZO, PARANA VAR
52°43.6W	23°31.7S	4/ 9/73	14°45'01	84-347	BRAZIL, RIO IVAI
52°19.0W	22°54.0S	8/ 8/73	16°24'15	* 19-389	BRAZIL, RIO PARANAPANEMA
52°53.8W	22°07.7S	8/ 8/73	16°23'59	83-359	BRAZIL, RIO PARANA
52°08.3W	22°55.8S	8/ 8/73	16°24'16	83-360	BRAZIL, RIO PARANAPANEMA
52°05.0W	22°51.8S	4/ 9/73	14°45'16	84-348	BRAZIL, RIO PARANAPANEMA, FIOROPOLIS
52°46.6W	18°21.4S	3/ 9/73	15°25'41	34-096	BRAZIL, SERRA DO CAIAPO

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
52°06.7W	12°14.1S	5/ 8/73	16°55'30	22-291	BRAZIL, RIO SUIA-MISSU, SERRA DO RONCADOR, C-15
52°53.1W	11°15.6S	5/ 8/73	16°55'10	22-290	BRAZIL, RIO XINGU, C-10
52°33.4W	18°08.0N	2/ 9/73	17°58'01	34-067	ATLANTIC OCEAN, C-90
52°23.5W	18°18.8N	2/ 9/73	17°58'05	84-329	ATLANTIC OCEAN, C-100
52°54.5W	48°28.8N	13/ 9/73	19°45'47	40-227	NEWFOUNDLAND, TRINITY BAY, BONAVISTA, C-30
52°34.7W	48°25.7N	13/ 9/73	19°45'50	88-032	NEWFOUNDLAND, GRATES POINT, CAPE BONAVISTA, TRINITY BAY, C-30
52°50.5W	49°12.0N	15/ 9/73	16°40'57	40-320	NEWFOUNDLAND, FOGO IS., DEADMAN BAY, C-10
52°14.3W	49°17.6N	15/ 9/73	16°41'04	87-067	ATLANTIC OCEAN, C-20
52°44.6W	49°47.2N	15/ 9/73	18°18'15	87-151	ATLANTIC OCEAN, C-40
52°07.3W	49°43.8N	15/ 9/73	18°18'22	87-152	ATLANTIC OCEAN, C-40
51°51.2W	34°56.1S	2/ 9/73	14°33'11	34-016	ATLANTIC OCEAN OFF MOUTH OF PLATA
51°11.6W	34°27.0S	2/ 9/73	14°33'22	84-261	ATLANTIC OCEAN OFF MOUTH OF PLATA
51°39.0W	31°06.1S	1/ 9/73	15°17'32	28-330	BRAZIL, LAGOA DOS PATOS
51°44.6W	31°09.9S	1/ 9/73	15°17'30	84-215	BRAZIL, LAGOA DOS PATOS, CAMAQUA, SAN LOURENÇO DO SUL
51°07.7W	30°40.2S	1/ 9/73	15°17'42	28-331	BRAZIL, PORTO ALEGRE, LAGOA DOS PATOS
51°23.5W	30°52.6S	1/ 9/73	15°17'37	84-216	BRAZIL, LAGOA DOS PATOS, TAPES, CAMAQUA
51°03.1W	30°35.4S	1/ 9/73	15°17'43	84-217	BRAZIL, LAGOA DOS PATOS, RIO GUAIBA
51°22.2W	23°43.6S	8/ 8/73	16°24'33	83-361	BRAZIL, RIO TABAJI, LONDRINA, ROLANDIA
51°52.8W	22°40.0S	4/ 9/73	14°45'20	34-176	BRAZIL, RIO PARANA, RIO PARANAPANEMA
51°27.1W	22°12.0S	4/ 9/73	14°45'30	84-349	BRAZIL, PRESIDENTE PRUDENTE, SANTO ANASTACIO
51°00.1W	21°43.8S	4/ 9/73	14°45'40	34-177	BRAZIL, LUCELIA, RIO TIETE, PRESIDENTA PRUDENTE
51°56.5W	17°23.4S	3/ 9/73	15°30'01	34-097	BRAZIL, SERRA DO CATIAU C-15
51°07.7W	16°26.4S	3/ 9/73	15°30'21	34-098	BRAZIL, FAZY, RIO TOCANTINS C-30
51°19.2W	13°12.7S	5/ 8/73	16°55'50	22-292	BRAZIL, SERRA DO RONCADOR, RIO DAS MORTES, RIO ARAGUAIA, C-10
51°48.5W	18°59.9N	2/ 9/73	17°58'19	84-330	ATLANTIC OCEAN, C-100
51°17.6W	19°34.0N	2/ 9/73	17°58'31	34-068	ATLANTIC OCEAN, C-80
51°12.3W	19°40.6N	2/ 9/73	17°58'33	84-331	ATLANTIC OCEAN, C-90
51°59.1W	48°18.7N	13/ 9/73	19°45'57	88-033	ATLANTIC OCEAN, C-20
51°24.2W	48°11.8N	13/ 9/73	19°46'03	88-034	ATLANTIC OCEAN
51°55.8W	49°18.7N	15/ 9/73	16°41'07	40-321	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, JET AIRCRAFT
51°37.7W	49°22.4N	15/ 9/73	16°41'10	87-068	ATLANTIC OCEAN
51°01.4W	49°26.5N	15/ 9/73	16°41'17	87-069	ATLANTIC OCEAN
51°30.1W	49°40.2N	15/ 9/73	18°18'28	87-153	ATLANTIC OCEAN, C-40
51°40.6W	50°07.8N	13/ 9/73	18°06'40	40-184	ATLANTIC OFF NEWFOUNDLAND
50°43.6W	34°07.3S	2/ 9/73	14°33'31	34-017	ATLANTIC OCEAN OFF MOUTH OF PLATA
50°23.8W	33°52.3S	2/ 9/73	14°33'36	84-262	ATLANTIC OCEAN OFF MOUTH OF PLATA
50°37.4W	30°14.5S	1/ 9/73	15°17'52	28-332	BRAZIL, PORTO ALEGRE, LAGOA DOS PATOS
50°43.3W	30°18.6S	1/ 9/73	15°17'56	84-218	BRAZIL, LAGOA DOS PATOS, RIO GUAIBA
50°22.5W	30°01.1S	1/ 9/73	15°17'56	84-219	BRAZIL, CSORIO, SANTO ANTONIO
50°07.0W	29°48.6S	1/ 9/73	15°18'02	28-333	BRAZIL, OSORIO, LAGOA DOS QUADRAS
50°03.1W	29°44.5S	1/ 9/73	15°18'03	84-220	BRAZIL, LAGOA DOS BARROS, SANTO ANTONIO
50°35.4W	24°31.0S	8/ 8/73	16°24'50	83-362	BRAZIL, RIO TABAJI, MONTE ALEGRE
50°48.6W	21°30.8S	4/ 9/73	14°45'44	84-350	BRAZIL, LUCELIA, OSUALDO CRUZ
50°08.0W	20°47.3S	4/ 9/73	14°46'00	34-178	BRAZIL, RIO TIETE, RIO GRANDE, FERNANDO POLIS
50°12.0W	20°05.7S	4/ 8/73	17°40'55	83-110	BRAZIL, SAO PAULO STATE, SAN JOSE, DO RIO PRETO
50°11.6W	20°50.9S	4/ 9/73	14°45'55	84-351	BRAZIL, ARACATUBA, RIO TIETE
50°22.9W	19°54.0S	4/ 8/73	17°40'51	22-161	BRAZIL, RIO PARANA, C-15
50°19.2W	15°28.4S	3/ 9/73	15°30'41	34-099	BRAZIL, FAZY, SERRA DOURADA C-60
50°31.8W	14°11.4S	5/ 8/73	16°56'10	22-293	BRAZIL, RIO ARAGUAIA, C-30
50°35.7W	20°21.3N	2/ 9/73	17°58'48	84-332	ATLANTIC OCEAN, C-80
50°59.4W	49°26.0N	15/ 9/73	16°41'17	40-322	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-15
50°03.1W	49°32.4N	15/ 9/73	16°41'27	40-323	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, CONTRAILS, C-20
50°24.2W	49°30.8N	15/ 9/73	16°41'23	87-070	ATLANTIC OCEAN, C-25
50°52.8W	49°36.2N	15/ 9/73	18°18'35	87-154	ATLANTIC OCEAN, C-40
50°15.6W	49°32.2N	15/ 9/73	18°18'41	87-155	ATLANTIC OCEAN, C-60
49°37.0W	33°18.1S	2/ 9/73	14°33'51	34-018	ATLANTIC OCEAN OFF MOUTH OF PLATA
49°36.7W	33°16.9S	2/ 9/73	14°33'51	84-263	ATLANTIC OCEAN OFF MOUTH OF PLATA
49°37.0W	29°22.6S	1/ 9/73	15°18'12	28-334	BRAZIL, TORRES, ARARANGUA
49°42.6W	29°26.5S	1/ 9/73	15°18'10	84-221	BRAZIL, LAGOA DOS QUADRAS
49°23.2W	29°09.7S	1/ 9/73	15°18'16	84-222	BRAZIL, LAGOA DO SOMBRIO, ARARANGUA
49°06.4W	28°55.4S	1/ 9/73	15°18'22	28-335	BRAZIL, CRICIUMA, LAGUNA, TURAPAO

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
49°03.8W	28°52.2S	1/ 9/73	15°18'23	84-223	BRAZIL, TUBARAO, LAGUNA, CRIEUMA
49°47.9W	25°18.3S	8/ 8/73	16°25'07	83-363	BRAZIL, PONTA GROSSA, RIO TIBAJI, CASTRO
49°12.7W	21°12.8S	4/ 8/73	17°41'18	83-112	BRAZIL, JABOTICABAL, RIO MAGI-GUACU, C-40, OVEREXPOSED
49°31.4W	20°53.4S	4/ 8/73	17°41'11	22-162	BRAZIL, SAN JOSE DE RIO PRETO, C-25
49°43.0W	20°39.7S	4/ 8/73	17°41'06	83-111	BRAZIL, CATANPUVA, C-25, OVEREXPOSED
49°44.0W	15°09.3S	5/ 8/73	16°56'30	22-294	BRAZIL, RIO DAS ALMAS, C-40
49°49.9W	15°01.0S	5/ 8/73	16°56'27	83-271	BRAZIL, GOIAS STATE C-35
49°15.3W	15°42.4S	5/ 8/73	16°56'41	83-272	BRAZIL, GOIAS STATE, CRIXAS, C-35
49°31.1W	14°30.5S	3/ 9/73	15°31'01	34-100	BRAZIL, SERRA DOURADA, HAZY C-60
49°58.8W	21°01.8N	2/ 9/73	17°59'02	84-333	ATLANTIC OCEAN, C-85
49°07.1W	49°38.5N	15/ 9/73	16°41'37	40-324	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-30
49°47.3W	49°34.9N	15/ 9/73	16°41'30	87-071	ATLANTIC OCEAN, C-40
49°10.0W	49°38.8N	15/ 9/73	16°41'37	87-072	ATLANTIC OCEAN, C-50
49°38.7W	49°27.8N	15/ 9/73	18°18'48	87-156	ATLANTIC OCEAN, C-70
49°01.8W	49°23.3N	15/ 9/73	18°18'55	87-157	ATLANTIC OCEAN, C-80
49°44.0W	50°10.5N	13/ 9/73	18°09'00	40-185	ATLANTIC OFF NEWFOUNDLAND
48°00.0W	34°30.0S	11/ 8/73	15°50'02	84-085	CLOUDS OVER WATER
48°32.1W	32°28.0S	2/ 9/73	14°34'11	34-019	ATLANTIC OCEAN OFF MOUTH OF PLATA
48°50.2W	32°41.2S	2/ 9/73	14°34'05	84-264	ATLANTIC OCEAN OFF MOUTH OF PLATA
48°04.1W	32°05.1S	2/ 9/73	14°34'19	84-265	ATLANTIC OCEAN OFF MOUTH OF PLATA C-15
48°59.8W	26°05.3S	8/ 8/73	16°25'25	83-364	BRAZIL, CURITIBA, LAPA
48°11.0W	26°51.9S	8/ 8/73	16°25'42	83-365	BRAZIL, JOINVILE, ILHA DE SAO FRANCISCO
48°40.0W	21°52.0S	4/ 8/73	17°41'31	22-163	BRAZIL, RIO TIETE, C-65
48°40.7W	21°47.4S	4/ 8/73	17°41'29	83-113	BRAZIL, ARARAQUARA, OVEREXPOSED, C-60
48°06.1W	17°03.8S	5/ 8/73	16°57'10	22-296	BRAZIL, GOIANIA, ANAPOLIS, C-50
48°05.1W	17°03.6S	5/ 8/73	16°57'10	83-274	BRAZIL, GOIAS STATE, RIO DOS ALMAS, C-30
48°55.2W	16°07.1S	5/ 8/73	16°56'50	22-295	BRAZIL, SERRA DO COCALZINHO, C-50
48°40.4W	16°22.9S	5/ 8/73	16°56'56	83-273	BRAZIL, GOIAS STATE, SERRA PASTA TRES, C-30
48°43.7W	13°32.4S	3/ 9/73	15°31'21	34-101	BRAZIL, SERRA DOURADA, HAZY C-40
48°09.7W	49°44.6N	15/ 9/73	16°41'47	40-325	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-30
48°32.8W	49°42.5N	15/ 9/73	16°41'43	87-073	ATLANTIC OCEAN, C-45
47°50.0W	34°40.0S	11/ 8/73	15°50'04	84-086	CLOUDS OVER WATER
47°40.0W	34°50.0S	11/ 8/73	15°50'06	84-087	CLOUDS OVER WATER
47°20.6W	27°38.1S	8/ 8/73	16°25'59	83-366	ATLANTIC OCEAN
47°16.3W	18°01.6S	5/ 8/73	16°57'30	22-297	BRAZIL, RIO CORUMBA, CHRISTALINA, C-40
47°29.8W	17°45.0S	5/ 8/73	16°57'24	83-275	BRAZIL, GOIAS STATE, SERRA DOS COCALZINHO, C-30
47°56.2W	12°33.5S	3/ 9/73	15°31'41	34-102	BRAZIL, CHAPADA DAS MANGABEIRAS C-20
47°08.7W	11°34.2S	3/ 9/73	15°32'01	34-103	BRAZIL, CHAPADA DAS MANGABEIRAS C-20
47°13.3W	49°49.7N	15/ 9/73	16°41'57	40-326	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-35
47°54.9W	49°46.3N	15/ 9/73	16°41'50	87-074	ATLANTIC OCEAN, C-30
47°17.0W	49°49.9N	15/ 9/73	16°41'56	87-075	ATLANTIC OCEAN, C-25
47°16.0W	49°09.2N	15/ 9/73	18°19'14	87-158	ATLANTIC OCEAN, C-15
47°49.6W	50°11.5N	13/ 9/73	18°09'20	40-186	ATLANTIC OFF NEWFOUNDLAND
46°06.8W	30°30.0S	2/ 9/73	14°34'57	34-020	ATLANTIC OCEAN, C-40
46°31.2W	28°23.9S	8/ 8/73	16°26'16	83-367	ATLANTIC OCEAN
46°18.3W	19°08.2S	5/ 8/73	16°57'53	83-277	BRAZIL, GOIAS STATE, C-65
46°29.5W	18°59.8S	5/ 8/73	16°57'50	22-298	BRAZIL, PATOS DE MINAS, C-40
46°53.6W	18°22.4S	5/ 8/73	16°57'38	83-276	BRAZIL, ANAPOLIS, C-25
46°17.0W	16°24.1S	4/ 9/73	14°47'32	34-179	BRAZIL, MINAS GERIAS STATE, RIO PARACATU C-25
46°22.3W	10°35.4S	3/ 9/73	15°32'21	34-104	BRAZIL, CHAPADA DAS MANGABEIRAS C-20
46°14.0W	49°53.8N	15/ 9/73	16°42'07	40-327	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-35
46°39.1W	49°52.7N	15/ 9/73	16°42'03	87-076	ATLANTIC OCEAN, C-15
46°00.2W	49°55.6N	15/ 9/73	16°42'10	87-077	ATLANTIC OCEAN, C-10
46°33.5W	49°02.9N	15/ 9/73	18°19'20	87-159	ATLANTIC OCEAN, C-25
45°39.7W	29°09.6S	8/ 8/73	16°26'33	83-368	ATLANTIC OCEAN C-30
45°05.5W	20°29.6S	5/ 8/73	16°58'21	83-279	BRAZIL, GOIAS STATE, SERRA DOS PILOES, C-65
45°38.0W	19°59.0S	5/ 8/73	16°58'10	22-299	BRAZIL, FORMIGA, GRANDE SAPUCAI RES., RIO GRAND
45°42.1W	19°48.9S	5/ 8/73	16°58'07	83-278	BRAZIL, GOIAS STATE, C-50
45°52.6W	15°55.1S	4/ 9/73	14°47'42	34-180	BRAZIL, MINAS GERIAS STATE, RIO PARACATU C-30

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
45°28.2W	15°26.2S	4/ 9/73	14°47'52	34-181	BRAZIL, MINAS GERIAS STATE, C-50
45°43.7W	15°43.9S	4/ 9/73	14°47'46	84-352	BRAZIL, PLANALTO DO BRAZIL, C-40
45°09.1W	15°02.3S	4/ 9/73	14°48'00	84-353	BRAZIL, PLANALTO DO BRAZIL, OVEREXPOSED, C-60
45°04.2W	14°57.2S	4/ 9/73	14°48'02	34-182	BRAZIL, MINAS GERIAS STATE, C-40
45°36.4W	9°36.7S	3/ 9/73	15°32'41	34-105	BRAZIL, RIO PARNAIBA, SERRA DO PENITENTE
45°42.1W	4°31.2N	9/ 8/73	13°59'01	28-050	ATLANTIC OCEAN, INTERFACE, SEA STATE
45°56.6W	48°57.3N	15/ 9/73	18°15'27	87-160	ATLANTIC OCEAN, C-60
45°25.6W	48°52.2N	15/ 9/73	18°19'33	87-161	ATLANTIC OCEAN, C-70
45°18.3W	49°58.3N	15/ 9/73	16°42'17	40-328	ATLANTIC OCEAN EAST OF NEWFOUNDLAND, C-30
45°23.3W	49°58.5N	15/ 9/73	16°42'16	87-078	ATLANTIC OCEAN
45°52.9W	50°09.8N	13/ 9/73	18°09'40	40-187	ATLANTIC OFF NEWFOUNDLAND
44°44.4W	29°57.0S	8/ 8/73	16°26'51	83-369	ATLANTIC OCEAN C-65
44°28.6W	21°10.0S	5/ 8/73	16°58'36	83-280	BRAZIL, MINAS GERIAS STATE, C-85
44°40.1W	14°27.7S	4/ 9/73	14°48'12	34-183	BRAZIL, RIO SAO FRANCISCO, RIO PANDEIROS C-25
44°34.8W	14°20.8S	4/ 9/73	14°48'14	84-354	BRAZIL, PLANALTO DO BRAZIL, OVEREXPOSED, C-40
44°16.0W	13°58.7S	4/ 9/73	14°48'22	34-184	BRAZIL, RIO SAO FRANCISCO, RIO CARINHANHA C-20
44°00.9W	13°39.0S	4/ 9/73	14°48'29	84-355	BRAZIL, RIO SAO FRANCISCO, OVEREXPOSED, C-60
44°50.3W	8°37.2S	3/ 9/73	15°33'01	34-106	BRAZIL, RIO GURGUETA
44°04.8W	7°38.2S	3/ 9/73	15°33'21	34-107	BRAZIL, RIO PARNAIBA RES.
44°54.6W	48°47.3N	15/ 9/73	18°19'40	87-162	ATLANTIC OCEAN, C-90
44°19.3W	48°41.2N	15/ 9/73	18°19'47	87-163	ATLANTIC OCEAN, C-90
44°43.1W	50°10.6N	14/ 9/73	17°26'08	40-275	NORTH ATLANTIC OCEAN, C-80
44°46.4W	50°00.6N	15/ 9/73	16°42'23	87-079	ATLANTIC OCEAN, C-10
44°09.1W	50°02.4N	15/ 9/73	16°42'29	87-080	ATLANTIC OCEAN, C-20
43°45.7W	30°47.8S	8/ 8/73	16°27'08	83-370	ATLANTIC OCEAN C-90
43°36.5W	23°10.6S	5/ 8/73	16°59'19	83-283	ATLANTIC OCEAN C-70
43°14.0W	22°30.4S	5/ 8/73	16°59'04	83-282	ATLANTIC OCEAN C-70
43°51.3W	21°50.2S	5/ 8/73	16°58'50	83-281	BRAZIL, MINAS GERIAS STATE, C-90
43°52.3W	13°29.6S	4/ 9/73	14°48'32	34-185	BRAZIL, MINAS GERIAS STATE, RIO JESUS DA LAPA C-40
43°28.9W	13°00.2S	4/ 9/73	14°48'42	34-186	BRAZIL, RIO SAO FRANCISCO, RIO JESUS DA LAPA C-50
43°05.2W	12°31.1S	4/ 9/73	14°48'52	34-187	BRAZIL, RIO SAO FRANCISCO, PARATINGA C-40
43°26.9W	12°57.1S	4/ 9/73	14°48'43	84-356	BRAZIL, RIO SAO FRANCISCO, OVEREXPOSED, C-50
43°19.0W	6°38.6S	3/ 9/73	15°33'41	34-108	BRAZIL, RIO PARNAIBA, SAN FRANCISCO DO MARANHAO
43°39.8W	48°34.1N	15/ 9/73	18°19'53	87-164	ATLANTIC OCEAN, C-75
43°04.2W	48°27.5N	15/ 9/73	18°20'00	87-165	ATLANTIC OCEAN, C-80
43°57.6W	50°06.5N	13/ 9/73	18°10'00	40-188	ATLANTIC OFF NEWFOUNDLAND
43°31.2W	50°04.1N	15/ 9/73	16°42'36	87-081	ATLANTIC OCEAN, C-25
42°45.7W	31°38.2S	8/ 8/73	16°27'25	83-371	ATLANTIC OCEAN C-95
42°59.5W	23°50.8S	5/ 8/73	16°59'33	83-284	ATLANTIC OCEAN C-70
42°41.8W	12°01.7S	4/ 9/73	14°49'02	34-188	BRAZIL, MINAS GERIAS STATE, BROTAS DE MACALPAS C-25
42°53.0W	12°15.1S	4/ 9/73	14°48'57	84-357	BRAZIL, RIO SAO FRANCISCO, AT RIO JESUS DA LAPA, C-40
42°18.0W	11°31.9S	4/ 9/73	14°45'12	34-189	BRAZIL, LAGOA ITAPARICA, RIO JACARE C-20
42°19.7W	11°33.0S	4/ 9/73	14°49'12	84-358	BRAZIL, CHAPADA DIAMANTINA, C-15
42°33.9W	5°39.2S	3/ 9/73	15°34'01	34-109	BRAZIL, TERPESINA, CAMPO MAIOR, RIO PARNAIBA C-30
42°28.9W	48°20.7N	15/ 9/73	18°20'06	87-166	ATLANTIC OCEAN, C-60
42°03.5W	50°01.1N	13/ 9/73	18°10'20	40-189	ATLANTIC OFF NEWFOUNDLAND
42°46.4W	50°11.1N	14/ 9/73	17°26'25	40-276	NORTH ATLANTIC OCEAN, C-90
42°53.3W	50°05.9N	15/ 9/73	16°42'43	87-082	ATLANTIC OCEAN, C-35
42°15.1W	50°07.5N	15/ 9/73	16°42'49	87-083	ATLANTIC OCEAN, C-50
41°44.4W	32°28.0S	8/ 8/73	16°27'42	83-372	ATLANTIC OCEAN C-90
41°55.0W	11°02.6S	4/ 9/73	14°45'22	34-190	BRAZIL, LAGOA ITAPARICA, SERRA DAS COELHO C-20
41°46.4W	10°51.0S	4/ 9/73	14°45'26	84-359	BRAZIL, CHAPADA DIAMANTINA, C-20
41°49.0W	4°39.7S	3/ 9/73	15°34'21	34-110	BRAZIL, SERRA DA IBIAPABA, PEDRO II C-35
41°03.9W	3°39.9S	3/ 9/73	15°34'41	34-111	BRAZIL, SOBRAL, SERRA DA IBIAPABA C-40
41°53.7W	48°13.8N	15/ 9/73	18°20'13	87-167	ATLANTIC OCEAN, C-50
41°18.7W	48°06.7N	15/ 9/73	18°20'20	87-168	ATLANTIC OCEAN, C-40
41°37.2W	50°08.8N	15/ 9/73	16°42'56	87-084	ATLANTIC OCEAN, C-70

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
40°41.8W	33°17.4S	8/ 8/73	16°27'59	83-373	ATLANTIC OCEAN C-85
40°18.4W	2°39.6S	3/ 9/73	15°35'01	34-112	BRAZIL, CAMUCIM, RIO ACARAU C-30
40°43.8W	47°59.3N	15/ 9/73	18°20'26	87-169	ATLANTIC OCEAN, C-30
40°09.2W	47°51.7N	15/ 9/73	18°20'33	87-170	ATLANTIC OCEAN, C-30
40°51.7W	50°09.7N	14/ 9/73	17°26'48	40-277	NORTH ATLANTIC OCEAN, C-80
40°58.9W	50°09.8N	15/ 9/73	16°43'02	87-085	ATLANTIC OCEAN, C-70
40°20.7W	50°10.6N	15/ 9/73	16°43'05	87-086	ATLANTIC OCEAN, C-50
39°33.9W	1°39.9S	3/ 9/73	15°35'21	34-113	ATLANTIC OCEAN C-40
39°34.9W	47°44.0N	15/ 9/73	18°20'39	87-171	ATLANTIC OCEAN, C-40
39°00.3W	47°36.2N	15/ 9/73	18°20'46	87-172	ATLANTIC OCEAN, C-45
39°42.8W	50°11.1N	15/ 9/73	16°43'16	87-087	ATLANTIC OCEAN, C-30
39°04.6W	50°11.6N	15/ 9/73	16°43'22	87-088	ATLANTIC OCEAN, C-30
38°24.0W	31°30.0S	4/ 8/73	17°44'57	83-114	CLOUDS AT TERMINATOR, UNDEREXPOSED
38°18.0W	31°34.0S	4/ 8/73	17°44'59	83-115	CLOUDS AT TERMINATOR, UNDEREXPOSED
38°12.0W	31°38.0S	4/ 8/73	17°45'01	83-116	CLOUDS AT TERMINATOR, UNDEREXPOSED
38°49.4W	0°40.5S	3/ 9/73	15°35'41	34-114	ATLANTIC OCEAN C-50
38°26.3W	47°28.0N	15/ 9/73	18°20'53	87-173	ATLANTIC OCEAN, C-35
38°55.4W	50°06.0W	14/ 9/73	17°27'09	40-278	NORTH ATLANTIC OCEAN, C-75
38°26.3W	50°11.6N	15/ 9/73	16°43'29	87-089	ATLANTIC OCEAN, C-30
37°52.4W	47°15.8N	15/ 9/73	18°20'59	87-174	ATLANTIC OCEAN, C-30
37°18.5W	47°11.2N	15/ 9/73	18°21'06	87-175	ATLANTIC OCEAN, C-25
37°01.3W	50°00.4N	14/ 9/73	17°27'28	40-279	NORTH ATLANTIC OCEAN, C-60
37°48.1W	50°11.6N	15/ 9/73	16°43'35	87-090	ATLANTIC OCEAN, C-30
37°10.2W	50°11.3N	15/ 9/73	16°43'42	87-091	ATLANTIC OCEAN, C-30
36°38.2W	15°54.9S	1/ 9/73	15°23'02	28-336	ATLANTIC OCEAN OFF BRAZIL, C-80
36°35.9W	4°07.8S	4/ 9/73	14°51'42	34-191	ATLANTIC OCEAN, BRAZIL AT CARO SADOQUE
36°11.5W	46°53.7N	15/ 9/73	18°21'19	87-177	ATLANTIC OCEAN, C-30
36°44.8W	47°02.6N	15/ 9/73	18°21'12	87-176	ATLANTIC OCEAN, C-35
36°32.0W	50°10.6N	15/ 9/73	16°43'45	87-092	ATLANTIC OCEAN, C-35
35°24.4W	42°30.0S	11/ 8/73	15°58'45	28-119	CLOUDS, HORIZON
35°49.8W	20°30.8S	2/ 9/73	14°38'37	34-021	ATLANTIC OCEAN, C-50
35°38.3W	46°44.8N	15/ 9/73	18°21'26	87-178	ATLANTIC OCEAN, C-20
35°05.3W	46°35.6N	15/ 9/73	18°21'32	87-179	ATLANTIC OCEAN, C-15
35°53.8W	50°10.0N	15/ 9/73	16°43'55	87-093	ATLANTIC OCEAN, C-40
35°15.6W	50°09.3N	15/ 9/73	16°44'02	87-094	ATLANTIC OCEAN, C-40
34°14.5W	13°00.2S	1/ 9/73	15°24'02	28-337	ATLANTIC OCEAN OFF BRAZIL, C-80
34°25.8W	1°13.9S	4/ 9/73	14°52'40	34-192	ATLANTIC OCEAN, C-20
34°32.7W	46°26.2N	15/ 9/73	18°21'39	87-180	ATLANTIC OCEAN, C-10
34°00.0W	46°16.6N	15/ 9/73	18°21'45	87-181	ATLANTIC OCEAN, C-15
34°37.4W	50°07.8N	15/ 9/73	16°44'08	87-095	ATLANTIC OCEAN C-40
33°27.7W	46°07.1N	15/ 9/73	18°21'52	87-182	ATLANTIC OCEAN, C-20
33°59.3W	50°06.3N	15/ 9/73	16°44'15	87-096	ATLANTIC OCEAN C-35
33°21.3W	50°04.7N	15/ 9/73	16°44'22	87-097	ATLANTIC OCEAN C-30
32°51.8W	19°23.1N	30/ 8/73	18°35'05	84-153	CLOUDS, C-100
32°11.3W	19°59.4N	30/ 8/73	18°35'17	84-154	CLOUDS, C-100
32°55.4W	45°57.2N	15/ 9/73	18°21'59	87-183	ATLANTIC OCEAN, C-25
32°23.1W	45°47.0N	15/ 9/73	18°22'05	87-184	ATLANTIC OCEAN C-20
32°43.4W	50°02.8N	15/ 9/73	16°44'25	87-098	ATLANTIC OCEAN C-40
32°05.5W	50°00.6N	15/ 9/73	16°44'35	87-099	ATLANTIC OCEAN C-40
31°08.3W	9°04.6S	1/ 9/73	15°25'22	28-338	ATLANTIC OCEAN OFF BRAZIL, C-30
31°49.2W	2°14.8N	4/ 9/73	14°53'50	34-193	ATLANTIC OCEAN, C-20
31°28.1W	20°39.7N	30/ 8/73	18°35'30	84-155	CLOUDS, C-100
31°50.8W	45°37.0N	15/ 9/73	18°22'12	87-185	ATLANTIC OCEAN C-20
31°18.5W	45°27.0N	15/ 9/73	18°22'18	87-186	ATLANTIC OCEAN C-20
31°27.8W	49°58.3N	15/ 9/73	16°44'41	87-100	ATLANTIC OCEAN C-50
30°00.0W	44°00.0S	11/ 8/73	15°55'25	28-120	CLOUDS, HORIZON
30°44.3W	20°28.7N	11/ 9/73	13°06'17	34-311	ATLANTIC OCEAN, C-30

LONGITUDE DDD°MM.H	LATITUDE DD°MM.H	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
30°44.6W	21°21.1N	30/ 8/73	18°35'43	84-156	CLOUDS, C-100
30°50.0W	49°55.7N	15/ 5/73	16°44'48	87-101	ATLANTIC OCEAN C-50
30°12.3W	49°52.9N	15/ 9/73	16°44'55	87-102	ATLANTIC OCEAN C-55
29°11.0W	5°44.6N	4/ 9/73	14°55'00	34-194	ATLANTIC OCEAN, C-70
29°59.5W	22°01.5N	30/ 8/73	18°35'56	84-157	CLOUDS, C-98
29°13.3W	22°41.5N	30/ 8/73	18°36'09	84-158	CLOUDS, C-97
29°34.7W	49°49.8N	15/ 9/73	16°45'02	87-103	ATLANTIC OCEAN C-55
28°48.9W	6°13.7N	4/ 9/73	14°55'10	34-195	ATLANTIC OCEAN C-80
28°26.2W	6°43.7N	4/ 9/73	14°55'20	34-196	ATLANTIC OCEAN C-95
28°03.1W	7°13.9N	4/ 9/73	14°55'30	34-197	ATLANTIC OCEAN C-98
28°44.6W	12°30.1N	3/ 9/73	15°40'07	34-115	ATLANTIC OCEAN, C-15
28°11.7W	23°11.7N	11/ 9/73	13°07'15	34-312	ATLANTIC OCEAN, C-20
28°29.0W	23°21.0N	30/ 8/73	18°36'21	84-159	CLOUDS, C-96
28°57.2W	49°46.6N	15/ 9/73	16°45'08	87-104	ATLANTIC OCEAN C-55
28°19.8W	49°43.1N	15/ 9/73	16°45'15	87-105	ATLANTIC OCEAN C-55
27°30.0W	45°30.0S	11/ 8/73	15°59'45	28-121	CLOUDS, HORIZON
27°30.2W	4°19.0S	1/ 9/73	15°26'58	28-339	ATLANTIC OCEAN OFF BRAZIL, C-35
27°40.4W	7°43.6N	4/ 9/73	14°55'40	34-198	ATLANTIC OCEAN C-100
27°17.6W	8°13.1N	4/ 9/73	14°55'50	34-199	ATLANTIC OCEAN C-100
27°48.0W	13°40.3N	3/ 9/73	15°40'31	34-116	ATLANTIC OCEAN C-30
27°42.4W	49°39.5N	15/ 9/73	16°45'21	87-106	ATLANTIC OCEAN C-50
27°05.2W	49°35.6N	15/ 9/73	16°45'28	87-107	ATLANTIC OCEAN C-50
26°56.5W	9°52.2S	2/ 9/73	14°42'17	34-022	ATLANTIC OCEAN, C-25
26°54.6W	8°42.7N	4/ 9/73	14°56'00	34-200	ATLANTIC OCEAN C-95
26°32.1W	9°11.9N	4/ 9/73	14°56'10	34-201	ATLANTIC OCEAN C-65
26°28.5W	49°31.3N	15/ 9/73	16°45'34	87-108	ATLANTIC OCEAN, C-50
25°00.0W	46°00.0S	11/ 8/73	16°00'05	28-122	CLOUDS, HORIZON
25°51.6W	2°07.6S	1/ 9/73	15°27'42	28-340	ATLANTIC OCEAN, C-25
25°22.6W	16°35.2N	3/ 9/73	15°41'31	34-117	ATLANTIC OCEAN, CAPE VERDE ISLANDS, SAO ANTAO, SAO VICENTE C-15
25°51.6W	49°27.0N	15/ 9/73	16°45'41	87-109	ATLANTIC OCEAN, C-50
24°29.2W	26°51.9N	11/ 9/73	13°08'35	34-313	ATLANTIC OCEAN,
23°00.0W	13°00.0N	4/ 9/73	14°57'26	34-202	ATLANTIC OCEAN C-60
22°30.0W	46°30.0S	11/ 8/73	16°00'25	28-123	CLOUDS, HORIZON
22°37.5W	2°10.2N	1/ 9/73	15°29'08	28-341	ATLANTIC OCEAN, C-35
21°19.7W	3°52.2N	1/ 9/73	15°25'42	28-342	ATLANTIC OCEAN OFF AFRICA, C-90
21°00.0W	4°20.9N	1/ 9/73	15°29'52	28-343	ATLANTIC OCEAN OFF AFRICA, C-95
21°35.9W	20°52.9N	3/ 9/73	15°43'01	34-118	ATLANTIC OCEAN OFF SPANISH SAHARA
21°09.5W	21°21.4N	3/ 9/73	15°43'11	34-119	ATLANTIC OCEAN OFF SPANISH SAHARA
20°00.0W	47°00.0S	11/ 8/73	16°00'45	28-124	CLOUDS, HORIZON
20°37.8W	4°50.9N	1/ 9/73	15°30'02	28-344	ATLANTIC OCEAN OFF AFRICA, C-98
20°15.4W	5°20.5N	1/ 9/73	15°30'12	28-345	ATLANTIC OCEAN OFF AFRICA, C-98
20°43.5W	21°49.5N	3/ 9/73	15°43'21	34-120	ATLANTIC OCEAN OFF SPANISH SAHARA
20°18.7W	22°15.7N	3/ 9/73	15°43'31	34-121	ATLANTIC OCEAN OFF SPANISH SAHARA
20°55.6W	30°03.5N	11/ 5/73	13°09'47	34-314	ATLANTIC OCEAN,
19°52.7W	5°50.2N	1/ 9/73	15°30'22	28-346	ATLANTIC OCEAN OFF AFRICA, C-95
19°30.3W	6°19.8N	1/ 9/73	15°30'32	28-347	ATLANTIC OCEAN OFF AFRICA, C-95
19°07.2W	6°49.8N	1/ 9/73	15°30'42	28-348	ATLANTIC OCEAN OFF AFRICA, C-95
19°50.7W	22°45.3N	3/ 9/73	15°43'41	34-122	ATLANTIC OCEAN OFF SPANISH SAHARA
19°23.4W	23°13.7N	3/ 9/73	15°43'51	34-123	ATLANTIC OCEAN OFF SPANISH SAHARA
18°44.5W	7°19.5N	1/ 9/73	15°30'52	28-349	ATLANTIC OCEAN OFF AFRICA, C-90
18°22.1W	7°49.0N	1/ 9/73	15°31'02	28-350	ATLANTIC OCEAN OFF AFRICA, C-85

LONGITUDE DDD°MM.H	LATITUDE DD°MM.N	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
18°56.7W	23°41.4N	3/ 9/73	15°44'01	34-124	ATLANTIC OCEAN OFF SPANISH SAHARA
18°29.6W	24°08.9N	3/ 9/73	15°44'11	34-125	ATLANTIC OCEAN OFF SPANISH SAHARA
18°02.3W	24°36.6N	3/ 9/73	15°44'21	34-126	ATLANTIC OCEAN OFF SPANISH SAHARA
17°30.0W	47°25.0S	11/ 8/73	16°01'05	28-125	CLOUDS, HORIZON
17°46.8W	2°14.3N	2/ 9/73	14°46'20	34-023	ATLANTIC OCEAN OFF AFRICA C-40
17°02.3W	3°14.0N	2/ 9/73	14°46'40	34-024	ATLANTIC OCEAN OFF AFRICA C-40
17°59.3W	8°18.7N	1/ 9/73	15°31'12	28-351	ATLANTIC OCEAN OFF AFRICA, C-60
17°35.9W	8°48.8N	1/ 9/73	15°31'22	28-352	ATLANTIC OCEAN OFF AFRICA, C-55
17°15.8W	20°21.1N	4/ 9/73	15°00'00	34-203	MAURITANIA-SPANISH SAHARA, CAP BLANC
17°34.3W	25°04.4N	3/ 9/73	15°44'31	34-127	ATLANTIC OCEAN OFF SPANISH SAHARA
17°06.6W	25°31.4N	3/ 9/73	15°44'41	34-128	ATLANTIC OCEAN OFF SPANISH SAHARA
17°53.4W	32°32.3N	11/ 9/73	13°10'45	34-315	MADEIRA I., FUNCHAL C-20
17°44.8W	32°39.7N	11/ 9/73	13°10'48	86-200	MADEIRA I., CALHETA, C-18
17°23.4W	32°56.4N	11/ 9/73	13°10'55	86-201	MADEIRA I., FUNCHAL, C-20
17°01.6W	33°12.9N	11/ 9/73	13°11'01	86-202	MADEIRA I., PORTO SANTO I., C-25
16°17.2W	4°13.9N	2/ 9/73	14°47'00	34-025	ATLANTIC OCEAN OFF AFRICA C-60
16°50.1W	20°49.3N	4/ 9/73	15°00'10	34-204	MAURITANIA-SPANISH SAHARA, CAP BLANC, LEVRIER BAY
16°53.4W	20°46.5N	4/ 9/73	15°00'09	84-360	MAURITANIA, SPANISH SAHARA, CAP BLANC
16°24.4W	21°17.5N	4/ 9/73	15°00'20	34-205	MAURITANIA-SPANISH SAHARA, CAP BLANC, LEVRIER BAY
16°36.3W	21°05.3N	4/ 9/73	15°00'15	84-361	MAURITANIA, SPANISH SAHARA, CAP BLANC, LEVRIER BAY
16°19.1W	21°23.9N	4/ 9/73	15°00'22	84-362	SPANISH SAHARA, MAURITANIA, ADRAR SOUTOUF
16°02.0W	21°42.5N	4/ 9/73	15°00'29	84-363	SPANISH SAHARA, ADRAR SOUTOUF, C-10
16°38.6W	25°58.8N	3/ 9/73	15°44'51	34-129	ATLANTIC OCEAN OFF SPANISH SAHARA
16°09.9W	26°26.3N	3/ 9/73	15°45'01	34-130	ATLANTIC OCEAN OFF SPANISH SAHARA
16°39.9W	33°29.3N	11/ 9/73	13°11'08	86-203	PORTO SANTO I., C-30
16°17.8W	33°45.7N	11/ 9/73	13°11'14	86-204	ATLANTIC OCEAN, C-35
15°00.0W	47°45.0S	11/ 8/73	16°01'25	28-126	CLOUDS, TERMINATOR
15°32.0W	5°13.4N	2/ 9/73	14°47'20	34-026	ATLANTIC OCEAN OFF AFRICA C-80
15°58.0W	21°45.8N	4/ 9/73	15°00'30	34-206	SPANISH SAHARA, MAURITANIA, ADRAR SOUTOUF C-10
15°31.7W	22°13.8N	4/ 9/73	15°00'40	34-207	SPANISH SAHARA, ADRAR SOUTOUF C-15
15°05.0W	22°41.9N	4/ 9/73	15°00'50	34-208	SPANISH SAHARA, EL TIRIS C-15
15°44.5W	22°01.0N	4/ 9/73	15°00'35	84-364	SPANISH SAHARA, ADRAR SOUTOUF, C-20
15°27.1W	22°19.4N	4/ 9/73	15°00'42	84-365	SPANISH SAHARA, ADRAR SOUTOUF, C-15
15°09.6W	22°38.1N	4/ 9/73	15°00'48	84-366	SPANISH SAHARA, ADRAR SOUTOUF, C-10
15°41.2W	26°53.5N	3/ 9/73	15°45'11	34-131	CANARY ISLANDS, GRAN CANARIA
15°12.2W	27°20.4N	3/ 9/73	15°45'21	34-132	CANARY ISLANDS, GRAN CANARIA, LAS PALMAS
15°55.7W	34°02.0N	11/ 9/73	13°11'21	86-205	ATLANTIC OCEAN, C-55
15°33.6W	34°18.3N	11/ 9/73	13°11'28	86-206	ATLANTIC OCEAN, C-75
15°11.2W	34°34.3N	11/ 9/73	13°11'34	86-207	ATLANTIC OCEAN, C-70
14°47.2W	6°12.8N	2/ 9/73	14°47'40	34-027	ATLANTIC OCEAN OFF AFRICA C-90
14°01.4W	7°12.7N	2/ 9/73	14°48'00	34-028	ATLANTIC OCEAN OFF AFRICA C-95
14°52.8W	22°55.4N	4/ 9/73	15°00'55	84-367	SPANISH SAHARA, EL TIRIS, C-10
14°38.3W	23°09.9N	4/ 9/73	15°01'00	34-209	SPANISH SAHARA, EL TIRIS, SEBJET AGSUMAL C-15
14°11.3W	23°37.7N	4/ 9/73	15°01'10	34-210	SPANISH SAHARA, EL TIRIS, SEBJET AGSUMAL C-15
14°34.0W	23°15.0N	4/ 9/73	15°01'02	84-368	SPANISH SAHARA, EL TIRIS, C-10
14°16.2W	23°33.3N	4/ 9/73	15°01'08	84-369	SPANISH SAHARA, EL TIRIS, C-10
14°43.6W	27°47.1N	3/ 9/73	15°45'31	34-133	CANARY ISLANDS, GRAN CANARIA, LAS PALMAS, FUERTEVENTURA
14°13.9W	28°13.9N	3/ 9/73	15°45'41	34-134	CANARY ISLANDS, FUERTEVENTURA C-15
14°48.5W	34°50.4N	11/ 9/73	13°11'41	86-208	ATLANTIC OCEAN, C-70
13°58.4W	23°51.6N	4/ 9/73	15°01'15	84-370	SPANISH SAHARA, EL TIRIS, C-10
13°44.2W	24°05.2N	4/ 9/73	15°01'20	34-211	SPANISH SAHARA, MAURITANIA, ZEMMUR, FL GUELTA C-15
13°16.5W	24°33.1N	4/ 9/73	15°01'30	34-212	SPANISH SAHARA, MAURITANIA, ZEMMUR
13°40.3W	24°09.9N	4/ 9/73	15°01'21	84-371	SPANISH SAHARA, EL TIRIS, C-15
13°22.5W	24°28.2N	4/ 9/73	15°01'28	84-372	SPANISH SAHARA, EL TIRIS, C-20
13°04.0W	24°46.4N	4/ 9/73	15°01'35	84-373	SPANISH SAHARA, EL TIRIS, C-30
13°44.2W	28°40.6N	3/ 9/73	15°45'51	34-135	CANARY ISLANDS, FUERTEVENTURA, LANZAROTE C-15
13°14.9W	29°06.7N	3/ 9/73	15°46'01	34-136	CANARY ISLANDS, LANZAROTE C-15
13°23.1W	35°48.9N	11/ 9/73	13°12'05	34-316	ATLANTIC OCEAN, C-40
12°30.0W	48°00.0S	11/ 8/73	16°01'45	28-127	CLOUDS, TERMINATOR

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
10°00.0W	48°25.0S	11 / 8/73	16°02'05	28-128	CLOUDS, TERMINATOR
10°10.7W	12°07.9N	2 / 9/73	14°49'40	34-029	GUINEA-MALI, BAFING RIVER C-60
9°46.9W	12°37.2N	2 / 9/73	14°49'50	34-030	GUINEA-MALI, BAFING RIVER, TINKISSA RIVER C-50
9°50.9W	12°33.4N	2 / 9/73	14°49'49	84-266	GUINEA, TINKISSO R., C-75
9°35.1W	12°52.9N	2 / 9/73	14°49'55	84-267	GUINEA, TINKISSO R., C-40
9°23.2W	13°06.7N	2 / 9/73	14°50'00	34-031	GUINEA-MALI, KITA, BAKOY RIVER C-40
9°19.6W	13°12.2N	2 / 9/73	14°50'02	84-268	GUINEA, MALI, BAKOY R., C-15
9°03.8W	13°31.6N	2 / 9/73	14°50'08	84-269	GUINEA, MALI, BAKOY R.,
9°05.7W	32°33.1N	3 / 9/73	15°47'21	34-137	MOROCCO, SAFI
9°08.0W	38°29.9N	11 / 9/73	13°13'15	34-317	PORTUGAL, LISBON, RIO TEJO, SETUBAL, CABO SINES
8°59.8W	13°36.1N	2 / 9/73	14°50'10	34-032	MALI, KITA, BAKOY RIVER, BAOULE RIVER, C-25
8°48.6W	13°50.9N	2 / 9/73	14°50'15	84-270	MALI, BAOULE R., NEGALA, C-12
8°36.1W	14°05.2N	2 / 9/73	14°50'20	34-033	MALI, BAOULE RIVER, TORODO C-20
8°12.0W	14°34.4N	2 / 9/73	14°50'30	34-034	MALI, NARA
8°32.8W	14°10.2N	2 / 9/73	14°50'22	84-271	MALI, BAOULE R., C-15
8°17.0W	14°29.5N	2 / 9/73	14°50'28	84-272	MALI, KOLGKANI, C-12
8°01.1W	14°48.7N	2 / 9/73	14°50'35	84-273	MALI, NARA
8°00.5W	33°23.4N	3 / 9/73	15°47'41	34-138	MOROCCO, CASABLANCA, SETTAT, MOHAMMEDIA
8°00.0W	38°00.0N	2 / 9/73	18°07'26	84-334	SPAIN, PORTUGAL, VIGO
8°00.0W	38°00.0N	2 / 9/73	18°07'28	84-335	SPAIN, PORTUGAL, VIGO
8°00.0W	38°00.0N	2 / 9/73	18°07'30	84-336	SPAIN, PORTUGAL, VIGO
7°00.0W	48°45.0S	11 / 8/73	16°02'25	28-129	CLOUDS, TERMINATOR
7°48.0W	15°03.7N	2 / 9/73	14°50'40	34-035	MALI, MAURITANIA, NARA
7°23.6W	15°32.7N	2 / 9/73	14°50'50	34-036	MALI MAURITANIA, BASSILKOUNOU
7°45.0W	15°07.8N	2 / 9/73	14°50'41	84-274	MALI, NARA
7°29.2W	15°27.1N	2 / 9/73	14°50'48	84-275	MALI, MAURITANIA
7°13.0W	15°46.2N	2 / 9/73	14°50'55	84-276	MALI, MAURITANIA NEMA PLATEAU, C-15
7°56.5W	20°26.7N	1 / 9/73	15°35'22	28-353	MAURITANIA, EL DJOUF
7°30.8W	20°55.1N	1 / 9/73	15°35'32	28-354	MAURITANIA, EL DJOUF
7°04.8W	21°23.3N	1 / 9/73	15°35'42	28-355	MAURITANIA, MALI, EL DJOUF
6°59.5W	16°01.7N	2 / 9/73	14°51'00	34-037	MALI MAURITANIA, DAHR NEME
6°35.1W	16°30.6N	2 / 9/73	14°51'10	34-038	MALI-MAURITANIA, IRRIGUI PLAIN
6°10.4W	16°59.7N	2 / 9/73	14°51'20	34-039	MALI-MAURITANIA, IRRIGUI PLAIN
6°56.9W	16°05.5N	2 / 9/73	14°51'01	84-277	MAURITANIA, MALI, NEMA PLATEAU
6°40.7W	16°24.6N	2 / 9/73	14°51'08	84-278	MAURITANIA, MALI, NEMA PLATEAU IRAIGUI PLAIN
6°24.6W	16°43.6N	2 / 9/73	14°51'14	84-279	MALI, IRAIGUI PLAIN
6°08.4W	17°02.7N	2 / 9/73	14°51'21	84-280	MALI, IRAIGUI PLAIN
6°38.4W	21°51.6N	1 / 9/73	15°35'52	28-356	MALI-MAURITANIA, EL DJOUF
6°12.0W	22°19.6N	1 / 9/73	15°36'02	28-357	MALI EL DJOUF
6°53.6W	34°12.7N	3 / 9/73	15°48'01	34-139	MOROCCO, RABAT, PORT LYAUTEY
6°02.8W	46°35.6N	21 / 9/73	14°04'00	46-324	BAY OF BISCAY, C-30
6°00.0W	46°15.0N	10 / 9/73	19°53'36	85-357	ATLANTIC OCEAN OFF FRANCE C-30
5°31.0W	0°44.0N	10 / 9/73	10°36'17	86-125	CLOUDS, TEST-DOUBLE EXPOSURE C-10C
5°15.4W	1°04.8N	10 / 9/73	10°36'23	86-126	ATLANTIC OCEAN, C-60, OVEREXPOSED
5°45.7W	17°28.6N	2 / 9/73	14°51'30	34-040	MALI-IRRIGUI PLAIN
5°20.6W	17°57.3N	2 / 9/73	14°51'40	34-041	MALI-IRRIGUI PLAIN
5°52.3W	17°21.8N	2 / 9/73	14°51'28	84-281	MALI, IRAIGUI PLAIN
5°35.8W	17°40.8N	2 / 9/73	14°51'34	84-282	MALI, IRAIGUI PLAIN
5°19.3W	17°59.9N	2 / 9/73	14°51'41	84-283	MALI, IRAIGUI PLAIN
5°02.8W	18°18.8N	2 / 9/73	14°51'47	84-284	MALI, IRAIGUI PLAIN AZAOUAD SANDS
5°45.3W	22°47.6N	1 / 9/73	15°36'12	28-358	MALI HAMACA DA SAFIA
5°53.6W	22°39.7N	1 / 9/73	15°36'09	84-224	MALI, HAMACA DA SAFIA
5°36.1W	22°58.2N	1 / 9/73	15°36'15	84-225	MALI, HAMACA DA SAFIA
5°18.7W	23°15.5N	1 / 9/73	15°36'22	28-359	MALI HAMACA DA SAFIA
5°18.3W	23°16.6N	1 / 9/73	15°36'22	84-226	MALI, HAMACA DA SAFIA
5°00.5W	23°34.9N	1 / 9/73	15°36'28	84-227	MALI, ERG CHECH
5°45.3W	35°01.5N	3 / 9/73	15°48'21	34-140	MOROCCO-SPAIN, TANGIER, STRAIT OF GIBFALTAR, LARACHE
5°00.0W	46°00.0N	10 / 9/73	19°53'41	85-358	ATLANTIC OCEAN OFF FRANCE C-35
5°58.5W	49°22.5N	19 / 9/73	13°54'06	87-187	ATLANTIC OCEAN, C-90
5°21.6W	49°17.7N	19 / 9/73	13°54'12	87-188	ENGLISH CHANNEL, C-95
4°59.9W	1°25.2N	10 / 9/73	10°36'29	86-127	ATLANTIC OCEAN, C-65, OVEREXPOSED
4°44.0W	1°45.6N	10 / 9/73	10°36'35	86-128	ATLANTIC OCEAN, C-50, OVEREXPOSED
4°28.6W	2°06.1N	10 / 9/73	10°36'42	86-129	ATLANTIC OCEAN, C-50, OVEREXPOSED

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
4°12.7W	2°26.5N	10/ 9/73	10°36'48	86-130	ATLANTIC OCEAN, C-50, OVEREXPOSED
4°55.9W	18°25.9N	2/ 9/73	14°51'50	34-042	MALI-IRRIGUI PLAIN
4°30.5W	18°54.8N	2/ 9/73	14°52'00	34-043	MALI-ERG IN SAKKANE
4°46.0W	18°37.8N	2/ 9/73	14°51'54	84-285	MALI, IRAIGUI PLAIN AZAOUAD SANDS
4°29.5W	18°56.6N	2/ 9/73	14°52'01	84-286	MALI, AZAOUAD SANDS
4°05.2W	19°23.3N	2/ 9/73	14°52'10	34-044	MALI-ERG IN SAKKANE
4°12.7W	19°15.5N	2/ 9/73	14°52'07	84-287	MALI, AZAOUAD SANDS
4°51.6W	23°43.5N	1/ 9/73	15°36'32	28-360	MALI HAMADA DA SAFIA
4°42.7W	23°53.4N	1/ 9/73	15°36'35	84-228	MALI, ALGERIA, ERG CHECH
4°24.3W	24°11.0N	1/ 9/73	15°36'42	28-361	MALI-ALGERIA, ERG CHECH, ERG EL AHMAR
4°24.6W	24°11.5N	1/ 9/73	15°36'42	84-229	ALGERIA, ERG CHECH
4°06.5W	24°29.8N	1/ 9/73	15°36'48	84-230	ALGERIA, ERG CHECH
4°35.8W	35°49.6N	3/ 9/73	15°48'41	34-141	MOROCCO-SPAIN, GIBRALTAR, CEUTA, TETUAN, 'THE ROCK'
4°00.0W	45°45.0N	10/ 9/73	19°53'50	85-359	ATLANTIC OCEAN OFF FRANCE C-45
4°23.9W	46°06.7N	21/ 9/73	14°04'20	46-325	BAY OF BISCAY, C-35
4°45.0W	49°13.0N	19/ 9/73	13°54'19	87-189	ENGLISH CHANNEL, C-90
4°08.5W	49°07.7N	19/ 9/73	13°54'25	87-190	FRANCE, BRITTANY, MORLAIX, C-85
3°57.2W	2°46.9N	10/ 9/73	10°36'55	86-131	ATLANTIC OCEAN, C-40, OVEREXPOSED
3°41.8W	3°07.4N	10/ 9/73	10°37'01	86-132	ATLANTIC OCEAN, C-65, OVEREXPOSED
3°25.9W	3°27.8N	10/ 9/73	10°37'07	86-133	ATLANTIC OCEAN, C-80, OVEREXPOSED
3°10.4W	3°48.2N	10/ 9/73	10°37'14	86-134	ATLANTIC OCEAN, C-95, OVEREXPOSED
3°39.8W	19°51.8N	2/ 9/73	14°52'20	34-045	MALI-ERG IN SAKKANE DOUAQUIR
3°55.9W	19°34.3N	2/ 9/73	14°52'14	84-288	MALI, AZAOUAD SANDS
3°39.1W	19°53.1N	2/ 9/73	14°52'20	84-289	MALI, AZAOUAD SANDS
3°14.1W	20°20.1N	2/ 9/73	14°52'30	34-046	MALI-DOUAQUIR
3°22.3W	20°11.9N	2/ 9/73	14°52'27	84-290	MALI, AZAOUAD SANDS
3°05.2W	20°30.7N	2/ 9/73	14°52'34	84-291	MALI, AZAOUAD SANDS ERG IN SAKKANE
3°56.9W	24°38.5N	1/ 9/73	15°36'52	28-362	ALGERIA, MALI, ERG CHECH, AZLEF UPLAND
3°48.3W	24°47.9N	1/ 9/73	15°36'55	84-231	ALGERIA, ERG CHECH
3°29.2W	25°06.2N	1/ 9/73	15°37'02	28-363	ALGERIA, ERG CHECH, AZLEF UPLAND
3°01.2W	25°33.7N	1/ 9/73	15°37'12	28-364	ALGERIA, ERG CHECH, AZLEF UPLAND
3°30.2W	25°06.2N	1/ 9/73	15°37'01	84-232	ALGERIA, ERG CHECH
3°24.3W	36°36.7N	3/ 9/73	15°49'01	34-142	SPAIN, MALAGA, SIERRA NEVADA, MOTRIL, GRANADA
3°32.2W	49°02.3N	19/ 9/73	13°54'32	87-191	FRANCE, ENGLISH CHANNEL, BRITTANY, MORLAIX, C-80
2°30.0W	49°00.0S	11/ 8/73	16°02'45	28-130	DARK SKY ONLY
2°55.0W	4°08.7N	10/ 9/73	10°37'20	86-135	ATLANTIC OCEAN, C-97, OVEREXPOSED
2°39.1W	4°29.1N	10/ 9/73	10°37'27	86-136	ATLANTIC OCEAN, C-90, OVEREXPOSED
2°23.6W	4°49.5N	10/ 9/73	10°37'33	86-137	ATLANTIC OCEAN, C-90, OVEREXPOSED
2°07.8W	5°09.8N	10/ 9/73	10°37'39	86-138	ATLANTIC OCEAN, C-90, OVEREXPOSED
2°48.0W	20°48.6N	2/ 9/73	14°52'40	34-047	MALI-TANEZROUFT
2°48.4W	20°49.3N	2/ 9/73	14°52'40	84-292	MALI, AZAOUAD SANDS ERG IN SAKKANE
2°22.3W	21°16.8N	2/ 9/73	14°52'50	34-048	MALI-TANEZROUFT
2°30.9W	21°08.1N	2/ 9/73	14°52'47	84-293	MALI, ERG IN SAKKANE, C-20
2°13.8W	21°26.7N	2/ 9/73	14°52'53	84-294	MALI, ERG IN SAKKANE, C-35
2°33.2W	26°00.9N	1/ 9/73	15°37'22	28-365	ALGERIA, ERG CHECH
2°04.9W	26°28.1N	1/ 9/73	15°37'32	28-366	ALGERIA, ERG CHECH
2°11.8W	37°23.0N	3/ 9/73	15°49'21	34-143	SPAIN, ALMERIA, SIERRA NEVADA, LORCA
2°17.1W	42°05.2N	11/ 9/73	13°15'01	34-318	SPAIN, RIO EBRO VALLEY, PAMPLONA, LOGRONO, CALAHORRA
2°06.2W	45°11.4N	16/ 9/73	16°06'24	46-049	FRANCE, BAY OF BISCAY, ETANG DE CARCANS, C-80
2°47.0W	45°36.3N	21/ 9/73	14°04'40	46-326	BAY OF BISCAY, C-40
2°55.9W	48°56.8N	19/ 9/73	13°54'39	87-192	FRANCE, ENGLISH CHANNEL, BRITTANY, LES SEPT. ILES, C-85
2°19.7W	48°50.9N	19/ 9/73	13°54'45	87-193	FRANCE, ENGLISH CHANNEL, BRITTANY, C-88
1°52.3W	5°30.2N	10/ 9/73	10°37'46	86-139	GHANA, C-100
1°36.8W	5°50.5N	10/ 9/73	10°37'52	86-140	GHANA, C-100
1°19.7W	6°10.5N	10/ 9/73	10°37'59	86-141	GHANA, C-100
1°05.0W	6°30.0N	10/ 9/73	10°38'05	86-142	GHANA, C-100
1°56.0W	21°45.0N	2/ 9/73	14°53'00	34-049	MALI-ALGERIA, TANEZROUFT
1°56.6W	21°45.3N	2/ 9/73	14°53'00	84-295	MALI, ERG IN SAKKANE, C-40
1°29.6W	22°13.4N	2/ 9/73	14°53'10	34-050	MALI-ALGERIA, TANEZROUFT
1°02.9W	22°41.2N	2/ 9/73	14°53'20	34-051	ALGERIA, TANEZROUFT
1°39.2W	22°04.0N	2/ 9/73	14°53'07	84-296	MALI, ERG IN SAKKANE, C-35
1°21.7W	22°22.4N	2/ 9/73	14°53'13	84-297	MALI, TANEZROUFT, C-35
1°04.2W	22°40.9N	2/ 9/73	14°53'20	84-298	MALI, ALGERIA, TANEZROUFT, C-15

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
1°36.2W	26°55.3N	1/ 9/73	15°37'42	28-367	ALGERIA, ERG CHECH
1°07.5W	27°22.2N	1/ 9/73	15°37'52	28-368	ALGERIA, ERG CHECH
1°34.9W	37°45.8N	3/ 9/73	15°49'31	34-144	SPAIN, CARTAGENA, MURCIA, AGUILAS, TOTANA
1°35.5W	40°01.1N	12/ 9/73	12°31'03	40-066	SPAIN, ARAGON AREA, C-90
1°14.4W	40°12.9N	12/ 9/73	12°31'09	86-245	SPAIN, C-100
1°11.5W	45°04.3N	21/ 9/73	14°05'00	46-327	FRANCE, BORDEAUX, GARONNE RIV., C-45
1°43.8W	48°45.0N	19/ 9/73	13°54'52	87-194	FRANCE, BRITTANY, GULF OF ST. MALO, C-90
1°07.8W	48°38.9N	19/ 9/73	13°54'58	87-195	FRANCE, GULF OF ST. MALO, BRITTANY, C-90
0°50.4W	6°50.0N	10/ 9/73	10°38'11	86-143	GHANA, C-96
0°33.3W	7°11.2N	10/ 9/73	10°38'18	86-144	GHANA, C-98
0°19.7W	7°31.5N	10/ 9/73	10°38'24	86-145	GHANA, C-98
0°02.6W	7°51.5N	10/ 9/73	10°38'31	86-146	GHANA, C-99
0°46.4W	22°59.3N	2/ 9/73	14°53'26	84-299	MALI, ALGERIA, TANEZROUFT
0°36.2W	23°09.1N	2/ 9/73	14°53'30	34-052	ALGERIA, TANEZROUFT
0°09.5W	23°36.9N	2/ 9/73	14°53'40	34-053	ALGERIA, TANEZROUFT ERG TIDJIPIT
0°28.6W	23°17.8N	2/ 9/73	14°53'33	84-300	ALGERIA, TANEZROUFT
0°10.8W	23°36.1N	2/ 9/73	14°53'40	84-301	ALGERIA, TANEZROUFT
0°38.5W	27°48.9N	1/ 9/73	15°38'02	28-369	ALGERIA, ACRAR, ERG CHECH
0°09.2W	28°15.6N	1/ 9/73	15°38'12	28-370	ALGERIA, ACRAR, TADEMAIT PLATEAU
0°57.6W	38°08.3N	3/ 9/73	15°45'41	34-145	SPAIN, CARTAGENA, CABO DE PALOS, ALICANTE
0°19.7W	38°30.8N	3/ 9/73	15°45'51	34-146	SPAIN, ALICANTE, CABO DE LANAO
0°55.6W	40°22.5N	12/ 9/73	12°31'13	40-067	SPAIN, ARAGON AREA C-90
0°15.4W	40°42.9N	12/ 9/73	12°31'23	40-068	SPAIN, RIO EBRO, PATANO DE MEQUINENZA C-80
0°48.1W	40°26.9N	12/ 9/73	12°31'15	86-246	SPAIN, C-99
0°21.4W	40°40.5N	12/ 9/73	12°31'22	86-247	SPAIN, C-99
0°35.9W	42°50.0N	11/ 9/73	13°15'21	34-319	SPAIN-FRANCE, PYRENEE MTS., PAU, TAPRES
0°32.2W	48°32.4N	19/ 9/73	13°55'05	87-196	FRANCE, C-98
0°12.0E	8°12.0N	10/ 9/73	10°38'37	86-147	GHANA, C-100
0°26.7E	8°32.0N	10/ 9/73	10°38'43	86-148	GHANA, C-100
0°44.4E	8°53.4N	10/ 9/73	10°38'50	86-149	GHANA, TOGO, C-100
0°06.9E	23°54.5N	2/ 9/73	14°53'46	84-302	ALGERIA, TANEZROUFT
0°17.8E	24°04.8N	2/ 9/73	14°53'50	34-054	ALGERIA, TANEZROUFT ERG-N-ATARAM
0°45.1E	24°32.3N	2/ 9/73	14°54'00	34-055	ALGERIA, ASSEJOURAD ESCARPMENT
0°20.7E	28°42.4N	1/ 9/73	15°38'22	28-371	ALGERIA, TADEMAIT PLATEAU
0°50.4E	29°08.8N	1/ 9/73	15°38'32	28-372	ALGERIA, GRAND ERG OCCIDENTAL, AGGAIA, TIMIMOUN
0°18.1E	38°52.8N	3/ 9/73	15°50'01	34-147	SPAIN, CABO DE LANAO, IBIZA I., FORMENTERA I.
0°57.0E	39°14.9N	3/ 9/73	15°50'11	34-148	SPAIN, BALEARIC ISLANDS, IBIZA, FORMENTERA
0°05.6E	40°54.1N	12/ 9/73	12°31'28	86-248	SPAIN, RIO EBRO, C-97
0°25.3E	41°03.5N	12/ 9/73	12°31'33	40-069	SPAIN, RIO EBRO, PATANO DE MEQUINENZA C-80
0°32.6E	41°07.6N	12/ 9/73	12°31'35	86-249	SPAIN, RIO EBRO, C-95
0°51.7E	43°26.9N	11/ 9/73	13°15'41	34-320	FRANCE-SPAIN, PYRENEE MTS., TOULOUSE, GARONNE RIV.
0°59.6E	44°03.8N	16/ 9/73	16°07'05	46-050	FRANCE, BORDEAUX, GARONNE RIV. C-60
0°21.0E	44°30.0N	21/ 9/73	14°05'20	46-328	FRANCE, GARONNE RIV. C-75
0°17.1E	44°31.8N	21/ 9/73	14°05'19	87-333	FRANCE, GARONNE R., C-85
0°47.4E	44°20.6N	21/ 9/73	14°05'25	87-334	FRANCE, VIAUR R., MOUNTAURAN, C-70
0°31.9E	45°54.4N	17/ 9/73	15°23'02	46-128	FRANCE, C-100
0°03.2E	48°25.8N	19/ 9/73	13°55'12	87-197	FRANCE, C-95
0°38.8E	48°18.7N	19/ 9/73	13°55'18	87-198	FRANCE, C-95
1°00.3E	9°13.7N	10/ 9/73	10°38'56	86-150	GHANA, TOGO, C-98
1°16.1E	9°34.0N	10/ 9/73	10°39'03	86-151	TOGO, C-98
1°32.2E	9°54.2N	10/ 9/73	10°39'09	86-152	TOGO, C-80
1°48.1E	10°14.5N	10/ 9/73	10°39'15	86-153	TOGO, DAHOMEY, C-50
1°20.4E	29°35.0N	1/ 9/73	15°38'42	28-373	ALGERIA, GRAND ERG OCCIDENTAL, TADEMAIT PLATEAU, AGGAIA
1°50.7E	30°01.2N	1/ 9/73	15°38'52	28-374	ALGERIA, GRAND ERG OCCIDENTAL, FT. MACMAHON, TADEMAIT PLATEAU
1°06.5E	41°23.8N	12/ 9/73	12°31'43	40-070	SPAIN, BARCELONA, LERIDA C-70
1°48.1E	41°43.7N	12/ 9/73	12°31'53	40-071	SPAIN, ANDORRA, BARCELONA C-50
1°00.0E	41°21.2N	12/ 9/73	12°31'42	86-250	SPAIN, TARRAGONA, C-80
1°27.3E	41°34.5N	12/ 9/73	12°31'46	86-251	SPAIN, BARCELONA, C-60
1°55.0E	41°47.5N	12/ 9/73	12°31'55	86-252	SPAIN, BARCELONA, MANRESA, SABADEL, C-40
1°51.0E	43°55.0N	21/ 9/73	14°05'40	46-329	FRANCE, LANGUEDOC AREA, C-75

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
1°47.7F	43°57.5N	21/ 9/73	14°05'38	87-336	FRANCE, CASTRES, AGOUT R., C-75
1°00.0E	44°04.0N	16/ 9/73	16°07'46	46-051	FRANCE, GARONNE RIV., TOULOUSE, C-50
1°17.7E	44°09.1N	21/ 9/73	14°05'32	87-335	FRANCE, TOULOUSE, GARONNE R., C-75
1°40.8E	45°33.1N	17/ 9/73	15°23'16	88-162	FRANCE, C-100
1°13.4E	48°12.5N	19/ 9/73	13°55'25	87-199	FRANCE, LOIRE R., C-90
1°48.7E	48°04.9N	19/ 9/73	13°55'31	87-200	FRANCE, LOIRE R., ORLEANS, C-85
2°03.9E	10°34.6N	10/ 9/73	10°39'22	86-154	TOGO, DAHOMEY, C-70
2°19.7E	10°54.9N	10/ 9/73	10°39'28	86-155	TOGO, DAHOMEY, UPPER VOLTA, C-90, OVEREXPOSED
2°35.8E	11°15.0N	10/ 9/73	10°39'35	86-156	TOGO, DAHOMEY, UPPER VOLTA, C-95, OVEREXPOSED
2°52.0E	11°35.3N	10/ 9/73	10°39'41	86-157	UPPER VOLTA, DAHOMEY, C-85, OVEREXPOSED
2°21.7E	30°27.4N	1/ 9/73	15°39'02	28-375	ALGERIA, GRAND ERG OCCIDENTAL, EL GOLEA
2°53.3E	30°53.4N	1/ 9/73	15°39'12	28-376	ALGERIA, EL GOLEA, GRAND ERG OCCIDENTAL
2°15.4E	39°57.9N	3/ 9/73	15°50'31	34-149	SPAIN, BALEARIC ISLANDS, MALLORCA, PALMA DE MALLORCA
2°30.9E	42°03.7N	12/ 9/73	12°32'03	40-072	FRANCE, SPAIN, CABO CREUS, BARCELONA C-30
2°22.7F	42°00.5N	12/ 9/73	12°32'01	86-253	SPAIN, FRANCE, GERONA, VICH, C-30
2°50.7E	42°13.6N	12/ 9/73	12°32'08	86-254	SPAIN, FRANCE, CAPE CREUS, PERPIGNAN, FIGUERAS, C-30
2°17.4F	43°45.8N	21/ 9/73	14°05'45	87-337	FRANCE, CARCASSONNE MAZAMET, C-60
2°47.0E	43°33.8N	21/ 9/73	14°05'52	87-338	FRANCE, BEZIERS, NARBONNE, ST. PONS, C-35
2°22.0E	44°03.0N	11/ 9/73	13°16'01	34-321	FRANCE, VILLEFRANCHE, RODEZ, MILLAD, CASTRES
2°07.5E	45°23.6N	17/ 9/73	15°23'22	46-129	FRANCE, C-100
2°49.7E	45°10.1N	17/ 9/73	15°23'30	88-163	FRANCE, C-100
2°23.3E	47°57.5N	19/ 9/73	13°55'38	87-201	FRANCE, LOIRE R., ORLEANS, C-75
2°58.3F	47°49.9N	19/ 9/73	13°55'45	87-202	FRANCE, LOIRE R., AUXERRE, C-75
3°07.8E	11°55.4N	10/ 9/73	10°39'47	86-158	NIGER, DAHOMEY, NIGER R., C-45, OVEREXPOSED
3°24.0E	12°15.5N	10/ 9/73	10°39'54	86-159	NIGER, NIGERIA, DAHOMEY, NIGER R., C-45, OVEREXPOSED
3°40.1E	12°35.6N	10/ 9/73	10°40'00	86-160	NIGER, NIGERIA, SOKOTO R., C-50, OVEREXPOSED
3°56.3F	12°55.7N	10/ 9/73	10°40'07	86-161	NIGER, NIGERIA, SOKOTO R., C-50, OVEREXPOSED
3°27.6E	31°20.5N	1/ 9/73	15°39'22	28-377	ALGERIA, EL GANTARA, GRAND ERG OCCIDENTAL
3°36.2E	40°40.5N	3/ 9/73	15°50'51	34-150	SPAIN, BALEARIC ISLANDS, MALLORCA, MENORCA
3°13.4E	42°23.1N	12/ 9/73	12°32'13	40-073	FRANCE, SPAIN, CABO CREUS, PERPIGNAN C-20
3°56.6F	42°42.2N	12/ 9/73	12°32'23	40-074	FRANCE, GOLFE DU LION, PALAVAS, NARBONNE
3°19.0E	42°26.2N	12/ 9/73	12°32'15	86-255	SPAIN, FRANCE, CAPE CREUS, PERPIGNAN, C-20
3°47.4E	42°38.9N	12/ 9/73	12°32'21	86-256	FRANCE, ETANG DE LEUCATE, MEDITERRANEAN SEA, C-20
3°22.0E	43°20.1N	21/ 9/73	14°06'00	46-330	FRANCE, BEZIERS, PERPIGNAN, MONTPELLIER, C-35
3°16.4E	43°21.8N	21/ 9/73	14°05'58	87-339	FRANCE, BEZIERS, SETE, MONTPELLIER, NARBONNE, C-20
3°45.4F	43°09.8N	21/ 9/73	14°06'05	87-340	FRANCE, NARBONNE, NARBONNE, MONTPELLIER, SETE, C-20
3°53.3E	44°37.3N	11/ 9/73	13°16'21	34-322	FRANCE, LEPUX, RHONE RIV., MONTEILIMAR, LAGPAUD COMBE
3°42.7E	44°50.8N	17/ 9/73	15°23'42	46-130	FRANCE, C-100
3°56.9F	44°46.3N	17/ 9/73	15°23'45	88-164	FRANCE, C-100
3°32.5E	47°42.2N	19/ 9/73	13°55'51	87-203	FRANCE, YONNE R., AUXERRE, C-75
4°12.4E	13°15.8N	10/ 9/73	10°40'13	86-162	NIGER, NIGERIA, SOKOTO R., C-65, OVEREXPOSED
4°28.6E	13°35.9N	10/ 9/73	10°40'19	86-163	NIGER, NIGERIA, SOKOTO R., C-70, OVEREXPOSED
4°45.0E	13°56.0N	10/ 9/73	10°40'26	86-164	NIGER, NIGERIA, SOKOTO R., C-60, OVEREXPOSED
4°03.5E	31°48.3N	1/ 9/73	15°35'32	28-378	ALGERIA, EL GANTARA
4°41.4E	32°16.3N	1/ 9/73	15°35'42	28-379	ALGERIA, OUARGLA, EL ALLA
4°59.2F	41°21.8N	3/ 9/73	15°51'12	34-151	MEDITERRANEAN SEA
4°50.0E	42°42.7N	21/ 9/73	14°06'20	46-331	FRANCE, MARSEILLE, MEDITERRANEAN SEA, C-80
4°16.0E	42°51.5N	12/ 9/73	12°32'28	86-257	FRANCE, MEDITERRANEAN SEA
4°14.4E	42°57.4N	21/ 9/73	14°06'11	87-341	FRANCE, GOLFE DE LION, C-50
4°43.1F	42°44.9N	21/ 9/73	14°06'18	87-342	MEDITERRANEAN SEA, C-80
4°39.8E	43°01.0N	12/ 9/73	12°32'33	40-075	FRANCE, MARSEILLE, MOUTH OF RHONE, SETE
4°45.0E	43°04.0N	12/ 9/73	12°32'34	86-258	FRANCE, MOUTH OF RHONE, MARTIGUES, ETANG DE BERRE
4°06.8E	47°34.3N	19/ 9/73	13°55'58	87-204	FRANCE, PLATEAU DE LANGRE, C-75
4°41.1F	47°26.0N	19/ 9/73	13°56'04	87-205	FRANCE, SAONE R., PLATEAU DE LANGRE, C-80
5°01.2E	14°15.9N	10/ 9/73	10°40'32	86-165	NIGER, NIGERIA, SOKOTO R., C-20, OVEREXPOSED
5°25.2E	14°45.4N	10/ 9/73	10°40'42	86-166	NIGER, TAHOUA, SOKOTO R., OVEREXPOSED
5°42.1E	15°05.7N	10/ 9/73	10°40'48	86-167	NIGER, OVEREXPOSED
5°58.9E	15°26.0N	10/ 9/73	10°40'55	86-168	NIGER, OVEREXPOSED
5°18.7E	32°43.7N	1/ 9/73	15°39'52	28-380	ALGERIA, TOUGGOURI OASIS, OUARGLA
5°11.7E	42°32.3N	21/ 9/73	14°06'25	87-343	MEDITERRANEAN SEA, C-80
5°40.1E	42°19.7N	21/ 9/73	14°06'31	87-344	MEDITERRANEAN SEA, C-85
5°23.9E	43°19.5N	12/ 9/73	12°32'43	40-076	FRANCE, MARSEILLE, TOULON, MOUTH OF RHONE

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
5°14.0E	43°16.2N	12/ 9/73	12°32'41	86-259	FRANCE, MOUTH OF RHONE, MARSEILLE, TOULON
5°43.4E	43°28.2N	12/ 9/73	12°32'48	86-260	FRANCE, MARSEILLE, DURANCE R., PROVENCE
5°15.0E	44°17.0N	17/ 9/73	15°24'02	46-131	FRANCE, C-95
5°03.5E	44°21.9N	17/ 9/73	15°23'59	88-165	FRANCE, RHONE R. NEAR LYON, C-95
5°27.2E	45°10.6N	11/ 9/73	13°16'41	34-323	FRANCE, RHONE RIV., LYON, ST. ETIENNE, GRENOBLE, VALENCE
5°15.0E	47°17.8N	19/ 9/73	13°56'11	87-206	FRANCE, SAONE R., C-85
5°48.6E	47°09.2N	19/ 9/73	13°56'18	87-207	SWITZERLAND, FRANCE, C-90
6°15.7E	15°46.2N	10/ 9/73	10°41'01	86-169	NIGER, OVEREXPOSED
6°32.5E	16°06.5N	10/ 9/73	10°41'08	86-170	NIGER, OVEREXPOSED
6°49.3E	16°26.6N	10/ 9/73	10°41'14	86-171	NIGER, C-20, OVEREXPOSED
6°00.8E	33°12.9N	1/ 9/73	15°40'02	28-381	ALGERIA, TOUGGOURI OASIS
6°36.1E	41°53.9N	21/ 9/73	14°06'44	87-346	MEDITERRANEAN SEA, C-90
6°22.6E	42°01.5N	3/ 9/73	15°51'32	34-152	MEDITERRANEAN SEA
6°15.7E	42°04.2N	21/ 9/73	14°06'40	46-332	MEDITERRANEAN SEA, C-85
6°08.1E	42°06.8N	21/ 9/73	14°06'38	87-345	MEDITERRANEAN SEA, C-95
6°08.4E	43°37.8N	12/ 9/73	12°32'53	40-077	FRANCE, MARSEILLE, TOULON, CANNES, DURANCE RIV. C-10
6°53.2E	43°55.6N	12/ 9/73	12°33'03	40-078	FRANCE, ITALY, CANNES, MONACO, NICE C-20
6°45.0E	43°42.1N	17/ 9/73	15°24'22	46-132	ITALY, VENTIMIGLIA, ALBENGA C-85
6°12.7E	43°40.2N	12/ 9/73	12°32'54	86-261	FRANCE, DURANCE R., SAINT RAPHAEL, DRAGUIGNAN
6°42.4E	43°51.9N	12/ 9/73	12°33'01	86-262	FRANCE, MONACO, CANNES, NICE, MONTE CARLO, C-20
6°09.1E	43°56.9N	17/ 9/73	15°24'13	88-166	FRANCE, ALPS NEAR GRENOBLE, C-95
6°22.3E	47°00.6N	19/ 9/73	13°56'24	87-208	SWITZERLAND, FRANCE, C-95
7°06.4E	16°46.9N	10/ 9/73	10°41'21	86-172	NIGER, C-35, OVEREXPOSED
7°23.2E	17°07.0N	10/ 9/73	10°41'27	86-173	NIGER, C-40, OVEREXPOSED
7°40.4E	17°27.1N	10/ 9/73	10°41'34	86-174	NIGER, FALAISE DE TIGIDIT, C-20, OVEREXPOSED
7°57.5E	17°47.4N	10/ 9/73	10°41'40	86-175	NIGER, FALAISE DE TIGIDIT, C-15, OVEREXPOSED
7°03.1E	30°21.3N	2/ 9/73	14°56'10	34-056	ALGERIA, GRAND ERG ORIENTAL
7°03.1E	30°21.3N	2/ 9/73	14°56'10	84-303	ALGERIA, GRAND ERG ORIENTAL
7°39.4E	41°24.5N	21/ 9/73	14°07'00	46-333	CORSICA, SARDINIA, CAPO DEL FALCONE, GOLFO DELL'ASINARA C-60
7°03.8E	41°40.8N	21/ 9/73	14°06'51	87-347	MEDITERRANEAN SEA, C-85
7°31.5E	41°27.6N	21/ 9/73	14°06'58	87-348	MEDITERRANEAN SEA, C-75
7°58.8E	41°14.2N	21/ 9/73	14°07'04	87-349	SARDINIA, ISOLA ASINARA, CAPO DEL FALCONE, C-55
7°47.6E	42°39.9N	3/ 9/73	15°51'51	34-153	MEDITERRANEAN SEA, CORSICA
7°14.0E	43°31.0N	17/ 9/73	15°24'28	88-167	FRANCE, ITALY, MONACO, NICE, CANNES, MONTE CARLO, C-65
7°39.1E	44°13.4N	12/ 9/73	12°33'13	40-079	FRANCE, ITALY, MONTE CARLO, SAVONA, TORINO C-35
7°12.4E	44°03.6N	12/ 9/73	12°33'07	86-263	FRANCE, MONACO, ITALY, MARITIME ALPS, MONTE CARLO, NICE, C-35
7°42.4E	44°15.2N	12/ 9/73	12°33'14	86-264	FRANCE, ITALY, MARITIME ALPS, LOANO, C-70
7°02.5E	45°42.0N	11/ 9/73	13°17'01	34-324	FRANCE-SWITZERLAND-ITALY, RHONE RIV., MT. BLANC, MATTERHORN, VAL AOSTA
7°44.3E	46°38.7N	19/ 9/73	13°56'41	87-209	SWITZERLAND, INTERLAKEN, BERNER ALPS, RHONE R., SUSTEN PASS, C-60
8°15.0E	18°07.5N	10/ 9/73	10°41'47	86-176	NIGER, FALAISE DE TIGIDIT, C-15, OVEREXPOSED
8°32.1E	18°27.4N	10/ 9/73	10°41'53	86-177	NIGER, AIR AU AZBINE MTS., C-15, OVEREXPOSED
8°49.6E	18°47.5N	10/ 9/73	10°42'00	86-178	NIGER, AIR AU AZBINE MTS., C-10, OVEREXPOSED
8°05.4E	31°13.2N	2/ 9/73	14°56'30	34-057	TUNISIA-ALGERIA, GRAND ERG ORIENTAL
8°20.3E	40°38.0N	4/ 9/73	15°08'00	34-213	SARDINIA, ALGERIA, GOLFO DELL'ASINARA
8°25.9E	41°00.7N	21/ 9/73	14°07'11	87-350	SARDINIA, ISOLA ASINARA, GOLFO DEL L'ASINARA, CASTEL SARDO, C-35
8°14.7E	43°05.0N	17/ 9/73	15°24'42	46-133	ITALY, CORSICA, C-80
8°17.6E	43°04.5N	17/ 9/73	15°24'42	88-168	MEDITERRANEAN SEA, C-77
8°24.9E	44°30.5N	12/ 9/73	12°33'23	40-080	ITALY, GENOVA, TORINO, NOVARA, SAVONA, RIVIERA C-40
8°12.7E	44°26.6N	12/ 9/73	12°33'21	86-265	ITALY, GENOVA, SAVONA, ACQUI, C-80
8°43.0E	44°37.9N	12/ 9/73	12°33'27	86-266	ITALY, GENOVA, RAPALLO, PORTOFINO, C-60
8°40.4E	46°12.3N	11/ 9/73	13°17'21	34-325	SWITZERLAND-ITALY, BERNER ALPS, RHONE RIV., MATTERHORN, LAKE MAGGIORE
8°55.5E	46°17.5N	11/ 9/73	13°17'24	86-209	ITALY, SWITZERLAND, ALPS, LAKE LUGANO, LAKE COMO, C-20
8°17.6E	46°29.0N	19/ 9/73	13°56'47	87-210	ITALY, SWITZERLAND, BERNER ALPS, RHONE R., INTERLAKEN, BRIG, C-60
8°45.3E	46°20.9N	19/ 9/73	13°56'53	87-211	ITALY, SWITZERLAND, LAKE MAGGIORE, LAKE COMO, BRIG, C-60
9°07.1E	19°07.6N	10/ 9/73	10°42'06	86-179	NIGER, AIR AU AZBINE MTS., OVEREXPOSED
9°24.5E	19°27.6N	10/ 9/73	10°42'13	86-180	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
9°42.0E	19°47.5N	10/ 9/73	10°42'19	86-181	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
9°59.5E	20°07.4N	10/ 9/73	10°42'26	86-182	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
9°08.7E	32°04.0N	2/ 9/73	14°56'50	34-058	TUNISIA-ALGERIA, RAMLAT ABAD, GRAND ERG ORIENTAL C-10
9°08.7E	32°04.0N	2/ 9/73	14°56'30	84-304	TUNISIA, ALGERIA, RAMLAT ABAD, GRAND ERG ORIENTAL
9°22.9E	32°16.2N	2/ 9/73	14°56'55	84-305	TUNISIA RAMLAT ABAD, C-15
9°00.8E	40°58.6N	4/ 9/73	15°08'10	34-214	SARDINIA, CORSICA, BONIFACIO STRAIT, LA MADDALENA
9°01.8E	40°43.4N	21/ 9/73	14°07'20	46-334	SARDINIA, CORSICA, STRAIT OF BONIFACIO, MONTE DEL GENNARGENTU C-30

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
9°00.0E	40°45.0N	21/ 9/73	14°07'19	87-351	SARDINIA, GOLFO DEL L'ASINARA, OLBIA, C-15
9°42.0E	41°18.8N	4/ 9/73	15°08'20	34-215	SARDINIA, CORSCIA, BONIFACIO STRAIT
9°26.2E	41°11.8N	4/ 9/73	15°08'16	84-374	SARDINIA, CORSCIA, STRAIT OF SAN RONAFACIO
9°41.0E	42°27.4N	17/ 9/73	15°25'02	46-134	ITALY, CORSICA, ELBA IS., PIOMBINO, MONTECRISTO IS. C-40
9°20.2E	42°37.5N	17/ 9/73	15°24'57	88-169	CORSICA, ELBA, ISOLA PIANOSA, C-50
9°16.3E	43°17.7N	3/ 9/73	15°52'12	34-154	MEDITERRANEAN SEA, CORSICA, BASTIA, CAP CORSE
9°11.3E	44°47.3N	12/ 9/73	12°33'33	40-081	ITALY, GENOA, PAVIA, MILANO, PO VALLEY C-35
9°14.0E	44°49.0N	12/ 9/73	12°33'34	86-267	ITALY, RAPALLO, GENOVA, APPENNINE MTS., C-60
9°45.0E	44°59.8N	12/ 9/73	12°33'40	86-268	ITALY, PO R., CREMONA, PIACENZA, PARMA, C-30
9°58.1E	45°03.8N	12/ 9/73	12°33'43	40-082	ITALY, MILANO, CREMONA, PARMA, BRESCIA C-40
9°55.8E	46°34.9N	11/ 5/73	13°17'36	86-210	ITALY, SWITZERLAND, AUSTRIA, ALPS, SANKT MORITZ, CHUR, DAVOS, C-55
9°17.9E	46°11.2N	19/ 5/73	13°56'59	87-212	ITALY, SWITZERLAND, LAKE MAGGIORE, LAKE COMO, LAKE LUGANO, C-65
9°50.2E	46°01.5N	19/ 5/73	13°57'06	87-213	ITALY, SWITZERLAND, LAKE COMO, ADDA R., LECCO, C-70
10°17.3E	20°27.4N	10/ 5/73	10°42'32	86-183	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
10°35.1E	20°47.2N	10/ 5/73	10°42'39	86-184	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
10°53.2E	21°07.1N	10/ 5/73	10°42'45	86-185	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
10°13.3E	32°54.7N	2/ 9/73	14°57'10	34-059	TUNISIA-GULF OF GABES, MEDENINE C-20
10°10.0E	32°52.8N	2/ 9/73	14°57'09	84-306	TUNISIA MARETH RIDGES, C-25
10°57.5E	33°29.0N	2/ 9/73	14°57'24	84-307	TUNISIA GULF OF GABES, ILE DE DJERBA, EL BOU GRARA
10°21.9E	40°01.6N	21/ 9/73	14°07'40	46-335	SARDINIA, TYRRHENIAN SEA, CAPE FERRATO C-60
10°23.8E	41°39.1N	4/ 9/73	15°08'30	34-216	CORSCIA, ISOLA DI MONTICRISTO, ISOLA DEL GIGLIO
10°25.5E	41°40.6N	4/ 9/73	15°08'31	84-375	TYRRHENIAN SEA
10°21.9E	42°09.6N	17/ 9/73	15°25'11	88-170	TYRRHENIAN SEA, MONTICRISTO I., ISOLA PIANOSA, GIGLIO I., C-35
10°00.4E	43°35.8N	3/ 9/73	15°52'22	34-155	ITALY, LIVORNO, PIZA, LA SPEZIA, VIAREGGIO, ARNO RIV.
10°44.9E	43°53.6N	3/ 9/73	15°52'32	34-156	ITALY, FLORENCE, LIVORNO, PISTOIA, BOLOGNA
10°45.3E	45°19.9N	12/ 9/73	12°33'53	40-083	ITALY, VERONA, FERRARA, PADOVA, TRENTO, C-30
10°15.9E	45°10.6N	12/ 9/73	12°33'47	86-269	ITALY, PO R., LAGO DI GARDA, CREMONA, C-20
10°47.2E	45°21.3N	12/ 9/73	12°33'54	86-270	ITALY, PO R., LAGO DI GARDA, MANTOVA, BRESCIA, C-30
10°22.5E	45°51.6N	19/ 5/73	13°57'13	87-214	ITALY, C-90
10°54.2E	45°41.4N	19/ 5/73	13°57'19	87-215	ITALY, VICENZA, C-80
10°18.9E	46°40.9N	11/ 9/73	13°17'41	34-326	SWITZERLAND-ITALY-AUSTRIA, ALPS, RHEIN PIV., CHUR C-50
10°57.1E	46°51.9N	11/ 9/73	13°17'48	86-211	ITALY, SWITZERLAND, AUSTRIA, ALPS, RENNEN PASS, C-77
11°11.0E	21°26.9N	10/ 5/73	10°42'52	86-186	NIGER, TENERE DU TAFASSASSET, OVEREXPOSED
11°29.1E	21°46.7N	10/ 5/73	10°42'58	86-187	NIGER, PLATEAU DU DJADO, OVEREXPOSED
11°47.2E	22°06.4N	10/ 5/73	10°43'05	86-188	NIGER, PLATEAU DU DJADO, OVEREXPOSED
11°19.5E	33°44.7N	2/ 9/73	14°57'30	34-060	TUNISIA-ILE DE DJERBA, GULF OF GABES, C-10
11°45.9E	34°04.9N	2/ 9/73	14°57'38	84-308	MEDITERRANEAN SEA, C-30
11°40.3E	39°18.5N	21/ 9/73	14°08'00	46-336	TYRRHENIAN SEA, C-75
11°05.7E	41°58.7N	4/ 9/73	15°08'40	34-217	ITALY, MONTE ARGENTARIO, CIVITAVECCHIA, MOUTH OF TIBER
11°06.7E	41°48.0N	17/ 9/73	15°25'22	46-135	ITALY, MONTE ARGENTARIO C-60
11°22.5E	41°41.1N	17/ 9/73	15°25'25	88-171	ITALY, MOUTH OF TIBER, LEONARDO DA VINCI AIRPORT, C-50
11°47.9E	42°18.2N	4/ 9/73	15°08'50	34-218	ITALY, ROMA, TIBER RIV., LAGO DI BOLSENA, ORVIETO
11°25.8E	42°08.8N	4/ 9/73	15°08'45	84-376	ITALY, MONTE ARGENTARIO, ISOLA DEL GIGLIO, CNITA VECCHIA
11°30.1E	44°11.2N	3/ 9/73	15°52'41	34-157	ITALY, BOLOGNA, RIMINI, MODENA, PO RIVER
11°33.1E	45°35.8N	12/ 9/73	12°34'03	40-084	ITALY, VENICE, PADOVA, TRENTO, VERONA C-30
11°18.9E	45°31.8N	12/ 9/73	12°34'00	86-271	ITALY, PADOVA, VERONA, VICENZA, C-30
11°59.8E	45°45.0N	12/ 9/73	12°34'09	86-272	ITALY, VENICE, TREVISO, PIAVE R., BELLUNO, C-20
11°26.1E	45°31.2N	19/ 5/73	13°57'26	87-216	ITALY, TREVISO, PADOVA, VICENZA, C-50
11°57.4E	45°20.6N	19/ 5/73	13°57'32	87-217	ITALY, VENICE, PO R., PADOVA, TREVISO, C-30
12°05.4E	22°26.2N	10/ 9/73	10°43'11	86-189	NIGER, PLATEAU DU MANGINI, OVEREXPOSED
12°23.8E	22°45.8N	10/ 9/73	10°43'18	86-190	NIGER, PLATEAU DU MANGINI, OVEREXPOSED
12°42.3E	23°05.6N	10/ 9/73	10°43'24	86-191	LIBYA, NIGER, IDEHAN DUMURZUK, OVEREXPOSED
12°26.8E	34°33.8N	2/ 9/73	14°57'50	34-061	MEDITERRANEAN SEA, ISOLA D. LAMPEDUSA C-25
12°35.0E	34°40.2N	2/ 9/73	14°57'53	84-309	MEDITERRANEAN SEA, C-30
12°57.8E	38°34.2N	21/ 9/73	14°08'20	46-337	SICILY, PALERMO, CASTELLAMARE
12°29.4E	41°08.0N	17/ 9/73	15°25'42	46-136	ITALY, MOUTH OF TIBER C-70
12°22.5E	41°12.3N	17/ 9/73	15°25'40	88-172	ITALY, ANZIO, MOUTH OF TIBER, C-65
12°31.4E	42°37.6N	4/ 9/73	15°09'00	34-219	ITALY, ROMA, TIBER RIV., PERUGIA, SPOLETO, FALIGNO
12°27.1E	42°36.5N	4/ 9/73	15°08'59	84-377	ITALY, LAGO DI BOLSENA, TIBER R., TERNI SPOLETO
12°12.3E	44°27.0N	3/ 9/73	15°52'51	34-158	ITALY-SAN MARINO, FERRARA, COMACCHIO
12°28.8E	45°10.1N	19/ 9/73	13°57'39	87-218	ITALY, MOUTH OF PO, VENICE, TREVISO, GULF OF VENICE

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
12°50.8E	46°00.3N	12/ 9/73	12°34'19	40-085	ITALY, AUSTRIA, YUGOSLAVIA, VENICE, TRIESTE, UDINE C-25
12°55.1E	46°02.3N	12/ 9/73	12°34'20	86-273	ITALY, YUGOSLAVIA, MONTEFALCONE, UDINE, C-20
12°00.4E	47°07.9N	11/ 9/73	13°18'01	34-327	ITALY-AUSTRIA-GERMANY, ATYROL ALPS, INN RIV., C-75
12°41.3E	47°18.8N	11/ 9/73	13°18'09	86-212	GERMANY, AUSTRIA, ALPS, SALZACH R., SALZBURG, C-80
13°00.7E	23°25.2N	10/ 9/73	10°43'31	86-192	LIBYA, NIGER, IDEHAN DUMURZUK, OVEREXPOSED
13°19.2E	23°44.6N	10/ 9/73	10°43'37	86-193	LIBYA, NIGER, IDEHAN DUMURZUK, OVEREXPOSED
13°38.0E	24°04.3N	10/ 9/73	10°43'44	86-194	LIBYA, NIGER, IDEHAN DUMURZUK, OVEREXPOSED
13°56.8E	24°23.9N	10/ 9/73	10°43'50	86-195	LIBYA, NIGER, IDEHAN DUMURZUK, OVEREXPOSED
13°24.1E	35°15.0N	2/ 9/73	14°58'07	84-310	MEDITERRANEAN SEA C-30
13°28.4E	38°15.4N	21/ 9/73	14°08'28	87-352	SICILY, PALERMO, BAGHERIA, CAFALU
13°52.8E	38°00.8N	21/ 9/73	14°08'34	87-353	SICILY, PALERMO, BAGHERIA, LA MADONIE, CACCAMO
13°50.2E	40°27.1N	17/ 9/73	15°26'02	46-137	ITALY, ANZIO C-85
13°21.2E	40°42.6N	17/ 9/73	15°25'54	88-173	ITALY, PONZA IS., VENTOTENE I., C-75
13°14.6E	42°56.4N	4/ 9/73	15°05'10	34-220	ITALY, ANCONA, FABRIANO, PERUGIA, SAN BENEDETTO
13°58.1E	43°14.9N	4/ 9/73	15°09'20	34-221	ITALY, ANCONA, SAN BENEDETTO, ADRIATIC SEA
13°29.4E	43°03.3N	4/ 9/73	15°05'14	84-378	ITALY, SAN BENEDETTO DEL TRONTO, FERMO, MONTE VETTORE
13°01.7E	44°45.2N	3/ 9/73	15°53'01	34-159	ITALY-YUGOSLAVIA, MOUTH OF PO RIV., ADRIATIC SEA, PULA
13°00.1E	44°59.3N	19/ 9/73	13°57'46	87-219	ITALY, MOUTH OF PO, ADRIATIC SEA, GULF OF VENICE, C-85
13°30.7E	44°48.3N	19/ 9/73	13°57'52	87-220	YUGOSLAVIA, PULA, ADRIATIC SEA, C-35
13°50.8E	46°19.1N	12/ 9/73	12°34'32	86-274	ITALY, YUGOSLAVIA, AUSTRIA, KLAGENFURT, LJUBLJANA, C-25
13°43.6E	47°33.3N	11/ 9/73	13°18'21	34-328	AUSTRIA-SALZBURG, ALPS, SALZKAMMERGUT, LINZ
13°30.7E	47°30.8N	11/ 9/73	13°18'19	86-213	GERMANY, AUSTRIA, SALZKAMMERGUT LAKES, SALZACH R., C-70
14°15.5E	24°43.3N	10/ 9/73	10°43'57	86-196	LIBYA, IDEHAN DUMURZUK, OVEREXPOSED
14°34.3E	25°02.6N	10/ 9/73	10°44'03	86-197	LIBYA, JEBEL BENI GHNEMA, OVEREXPOSED
14°53.0E	25°21.9N	10/ 9/73	10°44'10	86-198	LIBYA, AL HARAJ AL ASWAD, OVEREXPOSED
14°13.2E	35°50.0N	2/ 9/73	14°58'22	84-311	MEDITERRANEAN SEA C-30
14°12.6E	37°49.6N	21/ 9/73	14°08'40	46-338	SICILY, MT. ETNA (ACTIVE), GELA, CATANIA
14°17.2E	37°45.9N	21/ 9/73	14°06'41	87-354	SICILY, MOUNT ETNA, (ACTIVE), BRONTE, MONTI NEBRUDI
14°41.2E	37°31.3N	21/ 9/73	14°08'47	87-355	SICILY, MOUNT ETNA, (ACTIVE), CATANIA, PATERNO
14°19.2E	40°12.6N	17/ 9/73	15°26'09	88-174	TYRRHENIAN SEA, C-85
14°42.9E	43°33.3N	4/ 9/73	15°09'30	34-222	YUGOSLAVIA, ADRIATIC SEA, DALMATIAN IS., ZADAR
14°32.7E	43°29.7N	4/ 9/73	15°09'28	84-379	ADRIATIC SEA
14°01.4E	44°37.3N	19/ 9/73	13°57'59	87-221	YUGOSLAVIA, PULA, KUARNERIC, CRES I., C-50
14°32.0E	44°26.1N	19/ 9/73	13°58'05	87-222	YUGOSLAVIA, PAG I., OLIB I., VELEBIT COAST, C-60
14°09.0E	46°23.7N	12/ 9/73	12°34'35	40-086	ITALY, AUSTRIA, YUGOSLAVIA, TRIESTE, LJUBLJANA, VILLACH C-25
14°47.5E	46°35.4N	12/ 9/73	12°34'43	86-275	YUGOSLAVIA, AUSTRIA, KLAGENFURT, DRAVA R., KRANJ, C-10
14°20.5E	47°42.5N	11/ 9/73	13°18'28	86-214	AUSTRIA, SALZKAMMERGUT, DANUBE R., STEYR, C-45
15°11.7E	25°41.3N	10/ 9/73	10°44'16	86-199	LIBYA, AL HARAJ AL ASWAD, OVEREXPOSED
15°03.3E	36°25.0N	2/ 9/73	14°58'36	84-312	MEDITERRANEAN SEA C-30
15°52.1E	36°46.3N	21/ 9/73	14°05'07	87-358	MEDITERRANEAN SEA
15°26.1E	37°03.6N	21/ 9/73	14°05'00	46-339	SICILY, SYRACUSA, CATANIA, PACHINO
15°05.0E	37°16.3N	21/ 9/73	14°08'54	87-356	SICILY, MOUNT ETNA (ACTIVE), CATANIA, SYRACUSA, AVOLA
15°28.7E	37°01.3N	21/ 9/73	14°09'00	87-357	SICILY, SYRACUSA, AVOLA, AGUSTA
15°10.6E	39°44.3N	17/ 9/73	15°26'22	46-138	ITALY, C-80
15°16.2E	39°41.9N	17/ 9/73	15°26'23	88-175	ITALY, BELVEDERE MARITTIMO, C-60
15°36.6E	43°55.4N	4/ 9/73	15°05'42	84-380	YUGOSLAVIA, DALMATIA COAST, ZADAR, BENKOVAC, KNIP
15°02.3E	44°14.7N	19/ 9/73	13°58'12	87-223	YUGOSLAVIA, ZADAR, DUGI OTOK I., KORNAV I., DALMATIC, C-70
15°32.3E	44°03.1N	19/ 9/73	13°58'19	87-224	YUGOSLAVIA, DALMATIC COAST, C-80
15°29.4E	46°46.3N	12/ 9/73	12°34'51	40-087	AUSTRIA, YUGOSLAVIA, HUNGARY, GRAZ, MARIBOR C-15
15°44.5E	46°51.2N	12/ 9/73	12°34'54	86-276	AUSTRIA, YUGOSLAVIA, HUNGARY, MARIBOR, GRAZ, MUR R.
16°38.3E	36°16.8N	21/ 9/73	14°05'20	46-340	MEDITERRANEAN SEA
16°15.8E	36°30.9N	21/ 9/73	14°09'13	87-359	MEDITERRANEAN SEA
16°38.9E	36°15.8N	21/ 9/73	14°09'20	87-360	MEDITERRANEAN SEA
16°12.5E	39°10.8N	17/ 9/73	15°26'37	88-176	ITALY, NICASTRO, GOLFO DI ST. EUFEMIA, P 1720, C-45
16°02.3E	43°51.4N	19/ 9/73	13°58'25	87-225	YUGOSLAVIA, C-90
16°31.7E	43°39.7N	19/ 9/73	13°58'32	87-226	YUGOSLAVIA, C-96
16°41.9E	44°20.5N	4/ 9/73	15°09'56	84-381	YUGOSLAVIA, DINARA ALPS, KARST, DRUAR
16°50.1E	47°07.9N	12/ 9/73	12°35'07	40-088	AUST., YUGO., CZECH., HUNG., SZOMBATHELY, GYOR
17°28.3E	35°48.4N	21/ 9/73	14°09'33	87-362	MEDITERRANEAN SEA
17°01.7E	36°00.3N	21/ 9/73	14°05'26	87-361	MEDITERRANEAN SEA

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
17°07.6E	38°39.0N	17/ 9/73	15°26'52	88-177	ITALY, IONIAN SEA, C-85
17°01.3E	43°27.7N	19/ 9/73	13°58'38	87-227	YUGOSLAVIA, C-95
17°30.3E	43°15.7N	19/ 9/73	13°58'45	87-228	YUGOSLAVIA, C-95
17°59.7E	43°03.5N	19/ 9/73	13°58'52	87-229	YUGOSLAVIA, C-93
17°47.8E	44°44.7N	4/ 9/73	15°10'11	84-382	YUGOSLAVIA, SAVA R., SLAVONSKI RBOD, BANJA LUKA
18°28.3E	42°51.0N	19/ 9/73	13°58'58	87-230	YUGOSLAVIA, C-93
18°54.7E	45°08.4N	4/ 9/73	15°10'25	84-383	YUGOSLAVIA, SAVA R., DANUBE R., OSJJEK, VUKOVAR
19°10.2E	37°25.8N	17/ 9/73	15°27'24	88-178	MEDITERRANEAN SEA, C-30
19°21.1E	37°19.4N	17/ 9/73	15°27'27	88-179	MEDITERRANEAN SEA, C-30
19°32.3E	37°12.6N	17/ 9/73	15°27'29	88-180	MEDITERRANEAN SEA, C-30
20°03.2E	45°31.3N	4/ 9/73	15°10'39	84-384	YUGOSLAVIA, NOVI SAD, DANUBE R., TISA P., KIKINDA
21°16.4E	45°54.2N	4/ 9/73	15°10'54	84-385	YUGOSLAVIA, ROMANIA, HUNGARY, TIMISOARA, ARAD, MURES R.
34°03.0E	33°51.0N	19/ 9/73	14°03'03	46-206	MEDITERRANEAN SEA
34°39.0E	33°28.0N	19/ 9/73	14°03'13	46-207	ISRAEL, LEBANON, BEIRUT, HAIFA, TYRE, ACRE C-15
34°49.2E	33°18.0N	19/ 9/73	14°03'17	87-231	LEBANON, ISRAEL, HAIFA, TYRE, C-20
35°45.0E	32°38.0N	19/ 9/73	14°03'33	46-209	ISRAEL, LEBANON, SYRIA, JORDAN, SEA OF GALILEE, JORDAN RIV.
35°32.3E	32°45.0N	19/ 9/73	14°03'30	87-233	ISRAEL, LEBANON, JORDAN, SYRIA, SEA OF GALILEE, JORDAN R., NAZARETH
35°54.1E	32°28.4N	19/ 9/73	14°03'36	87-234	ISRAEL, JORDAN, SYRIA, IRIB, JORDAN R., AMMAN, EPHRAIM WOOD
35°13.0E	33°03.0N	19/ 9/73	14°03'23	46-208	ISRAEL, LEBANON, BEIRUT, SEA OF GALILEE, HAIFA, NAZARETH C-15
35°10.9E	33°01.5N	19/ 9/73	14°03'23	87-232	ISRAEL, LEBANON, HAIFA, SEA OF GALILEE, TYRE, NAZARETH, C-20
36°44.8E	31°47.2N	19/ 9/73	14°03'53	46-211	JORDAN, SAUDI ARABIA, AMMAN, WADI AS SIRHAM
36°36.3E	31°54.9N	19/ 9/73	14°03'50	87-236	JORDAN, WADI MISEISISAT, WADI GHADA
36°57.4E	31°38.1N	19/ 9/73	14°03'56	87-237	JORDAN, SAUDI ARABIA, WADI EL ZIRULA, WADI BOYIR
36°15.0E	32°12.0N	19/ 9/73	14°03'43	46-210	ISRAEL, SYRIA, JORDAN, JORDAN RIV., AMMAN, JERICHO
36°15.2E	32°11.6N	19/ 9/73	14°03'43	87-235	JORDAN, AMMAN, AZ ZARQA
37°59.3E	30°47.2N	19/ 9/73	14°04'16	87-240	SAUDI ARABIA, HAZAWZA, WADI FAJR
37°18.1E	31°21.1N	19/ 9/73	14°04'03	87-238	JORDAN, SAUDI ARABIA, WADI HASA, WADI BOYIR, HAZAWZA
37°38.9E	31°04.2N	19/ 9/73	14°04'09	87-239	JORDAN, SAUDI ARABIA, HAZAWZA, AL MAYSARI, WADI GINAH
38°19.8E	30°30.0N	19/ 9/73	14°04'23	87-241	SAUDI ARABIA, WADI FAJR, AN NAFUD DESEPT
39°48.7E	14°32.3N	21/ 9/73	14°17'24	46-342	ETHIOPIA, GULF OF ZULA, ADUWA, C-40
39°29.0E	14°55.2N	21/ 9/73	14°17'16	87-364	ETHIOPIA, GULF OF ZULA, SENAFE
39°44.8E	14°36.4N	21/ 9/73	14°17'22	87-365	ETHIOPIA, GULF OF ZULA, SENAFE DANAKIL DEPRESSION
39°01.0E	15°30.0N	21/ 9/73	14°17'04	46-341	ETHIOPIA, ASMARA, GULF OF ZULA, MASSAWA
39°13.5E	15°14.1N	21/ 9/73	14°17'09	87-363	ETHIOPIA, ASMARA, MASSAWA, GULF OF ZULA
40°36.2E	13°34.4N	21/ 9/73	14°17'44	46-343	ETHIOPIA, DANAKIL DEPRESSION C-70
40°15.8E	13°58.5N	21/ 9/73	14°17'35	87-367	ETHIOPIA, DANAKIL DEPRESSION, ASAL, C-25
40°31.3E	13°39.4N	21/ 9/73	14°17'42	87-368	ETHIOPIA, DANAKIL DEPRESSION, C-35
40°46.8E	13°20.4N	21/ 9/73	14°17'48	87-369	ETHIOPIA, AFRERA, C-60
40°00.3E	14°17.4N	21/ 9/73	14°17'29	87-366	ETHIOPIA, DANAKIL DEPRESSION, (-381'), ASAL
41°23.7E	12°35.4N	21/ 9/73	14°18'04	46-344	ETHIOPIA, DANAKIL DEPRESSION, AFRERE LAKE, C-80
41°17.4E	12°42.3N	21/ 9/73	14°18'01	87-371	ETHIOPIA, C-90
41°32.6E	12°23.4N	21/ 9/73	14°18'08	87-372	ETHIOPIA, FRENCH SOMAGILAND, C-78
41°48.1E	12°04.3N	21/ 9/73	14°18'14	87-373	ETHIOPIA, FRENCH SOMAGILAND, C-70
41°01.9E	13°01.4N	21/ 9/73	14°17'55	87-370	ETHIOPIA, C-80
42°57.3E	10°37.7N	21/ 9/73	14°18'44	46-346	ETHIOPIA, C-70
42°48.7E	10°47.8N	21/ 9/73	14°18'40	87-377	SOMALI, GUBAN, C-60
42°10.1E	11°37.1N	21/ 9/73	14°18'24	46-345	ETHIOPIA, DANAKIL AREA, C-80
42°03.2E	11°45.3N	21/ 9/73	14°18'21	87-374	SOMALI, FRENCH SOMALILAND, DIKKIL, GOLFE DE ADJORA, C-70
42°18.4E	11°26.0N	21/ 9/73	14°18'27	87-375	SOMALI, FRENCH SOMALILAND, GOLFE DE TADJOURA, C-65
42°38.5E	11°06.9N	21/ 9/73	14°18'34	87-376	SOMALI, GUBAN, C-50
43°43.1E	9°39.2N	21/ 9/73	14°19'04	46-347	ETHIOPIA, SOMALI, HAUD AREA, C-90
43°33.5E	9°50.3N	21/ 9/73	14°19'00	87-380	SOMALI, ETHIOPIA, HAUD, C-92
43°48.7E	9°31.2N	21/ 9/73	14°19'06	87-381	SOMALI, ETHIOPIA, HAUD, C-96
43°03.5E	10°28.7N	21/ 9/73	14°18'47	87-378	SOMALI, GUBAN, C-75
43°18.7E	10°09.6N	21/ 9/73	14°18'53	87-379	SOMALI, ETHIOPIA, HAUD, C-85
44°29.2E	8°39.6N	21/ 9/73	14°19'24	46-348	ETHIOPIA, SOMALI, HAUD AREA, C-45
44°18.3E	8°52.8N	21/ 9/73	14°19'19	87-383	ETHIOPIA, HAUD, C-45
44°33.5E	8°33.5N	21/ 9/73	14°19'26	87-384	ETHIOPIA, HAUD, C-15
44°48.3E	8°14.2N	21/ 9/73	14°19'32	87-385	ETHIOPIA, OGADEN, C-11
44°03.5E	9°11.9N	21/ 9/73	14°19'13	87-382	SOMALI, ETHIOPIA, HAUD, C-80
45°47.0E	6°57.1N	21/ 9/73	14°19'58	87-389	SOMALI, ETHIOPIA, OGADEN, C-35
45°14.7E	7°40.9N	21/ 9/73	14°19'44	46-349	ETHIOPIA, SOMALI, OGADEN AREA, C-25
45°03.2E	7°55.1N	21/ 9/73	14°19'39	87-386	ETHIOPIA, OGADEN, C-18
45°17.7E	7°35.8N	21/ 9/73	14°19'45	87-387	ETHIOPIA, OGADEN, C-23

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
45°32.5E	7°16.4N	21/ 9/73	14°19'52	87-388	ETHIOPIA, OGADEN, C-19
46°48.0E	5°40.5N	21/ 9/73	14°20'24	46-351	SOMALI, CUSA MAREB
46°33.1E	5°58.7N	21/ 9/73	14°20'18	87-392	SOMALI, C-43
46°49.0E	5°38.3N	21/ 9/73	14°20'24	87-393	SOMALI, C-38
46°00.5E	6°41.1N	21/ 9/73	14°20'04	46-350	SOMALI, ETHIOPIA, OGADEN AREA, C-30
46°02.2E	6°38.0N	21/ 9/73	14°20'05	87-390	SOMALI, ETHIOPIA, C-55
46°17.3E	6°18.5N	21/ 9/73	14°20'11	87-391	SOMALI, ETHIOPIA, C-50
47°40.0E	4°33.5N	21/ 9/73	14°20'44	46-352	SOMALI, COAST OF OBBIA, C-15
47°22.2E	4°55.5N	21/ 9/73	14°20'37	87-395	SOMALI, INDIAN OCEAN, C-20
47°39.4E	4°33.7N	21/ 9/73	14°20'44	87-396	SOMALI, INDIAN OCEAN, C-20
47°56.9E	4°12.0N	21/ 9/73	14°20'50	87-397	SOMALI, INDIAN OCEAN, C-20
47°05.4E	5°17.2N	21/ 9/73	14°20'31	87-394	SOMALI, C-28
48°34.4E	3°27.5N	21/ 9/73	14°21'04	46-353	INDIAN OCEAN, C-10
48°15.0E	3°50.2N	21/ 9/73	14°20'57	87-398	INDIAN OCEAN, C-19
48°32.8E	3°28.6N	21/ 9/73	14°21'03	87-399	INDIAN OCEAN, C-12
48°50.9E	3°06.9N	21/ 9/73	14°21'10	87-400	INDIAN OCEAN, C-12
49°08.7E	2°45.3N	21/ 9/73	14°21'16	87-401	INDIAN OCEAN
49°26.5E	2°23.5N	21/ 9/73	14°21'23	87-402	INDIAN OCEAN
49°44.3E	2°01.8N	21/ 9/73	14°21'29	87-403	INDIAN OCEAN
50°38.3E	0°56.8N	21/ 9/73	14°21'49	87-406	INDIAN OCEAN
50°56.5E	0°35.1N	21/ 9/73	14°21'55	87-407	INDIAN OCEAN
50°02.4E	1°40.2N	21/ 9/73	14°21'36	87-404	INDIAN OCEAN
50°20.2E	1°18.4N	21/ 9/73	14°21'42	87-405	INDIAN OCEAN
51°32.4E	0°08.3S	21/ 9/73	14°22'08	87-409	INDIAN OCEAN
51°50.5E	0°30.1S	21/ 9/73	14°22'15	87-410	INDIAN OCEAN
51°14.3E	0°13.3N	21/ 9/73	14°22'02	87-408	INDIAN OCEAN
52°27.1E	1°13.6S	21/ 9/73	14°22'28	87-412	INDIAN OCEAN
52°09.0E	0°51.8S	21/ 9/73	14°22'21	87-411	INDIAN OCEAN
97°50.1E	20°25.6N	12/ 8/73	2°26'29	28-131	BURMA, SALWEEN RIV. C-85
97°36.3E	20°41.9N	12/ 8/73	2°26'24	84-088	BURMA SE OF MANDALAY, C-90
97°53.1E	20°23.4N	12/ 8/73	2°26'30	84-089	BURMA, NAM TAMHPAK R., C-92
98°15.8E	19°57.1N	12/ 8/73	2°26'39	28-132	BURMA, THAILAND, SALWEEN RIV., C-85
98°41.2E	19°29.0N	12/ 8/73	2°26'49	28-133	BURMA, THAILAND, SALWEEN RIV., C-80
98°26.0E	19°46.5N	12/ 8/73	2°26'43	84-091	BURMA, SALWEEN R., C-95
98°42.8E	19°28.4N	12/ 8/73	2°26'50	84-092	BURMA, THAILAND, MAE HONG SONG, C-95
98°59.3E	19°10.3N	12/ 8/73	2°26'56	84-093	THAILAND, CHANG MAI, C-85
98°09.5E	20°04.8N	12/ 8/73	2°26'37	84-090	BURMA, SALWEEN R., C-90
99°31.6E	18°32.9N	12/ 8/73	2°27'09	28-135	THAILAND, CHANG MAI, NAM MAE PING RIV. C-80
99°55.7E	18°00.4N	12/ 8/73	2°27'19	28-136	THAILAND, LAMPANG, NAM MAE WANG RIV., C-80
99°15.5E	18°52.0N	12/ 8/73	2°27'03	84-094	THAILAND, CHANG MAI, C-85
99°31.9E	18°33.5N	12/ 8/73	2°27'09	84-095	THAILAND, LAMPANG, C-80
99°47.8E	18°13.4N	12/ 8/73	2°27'16	84-096	THAILAND, LAMPANG, C-85
99°06.6E	19°01.2N	12/ 8/73	2°26'59	28-134	THAILAND, CHANG MAI, NAM MAE PING RIV. C-80
100°21.0E	17°34.4N	12/ 8/73	2°27'29	28-137	THAILAND, PHITSANULOK, MAE NAM NAN RIV., C-80
100°46.4E	17°09.1N	12/ 8/73	2°27'39	28-138	THAILAND, MAE NAM NAN RIV., MAE NAM PA SAK RIV., C-80
100°03.6E	17°52.1N	12/ 8/73	2°27'22	84-097	THAILAND, UTTARIDIT, MAE NAM NAN R., C-80
100°20.1E	17°36.0N	12/ 8/73	2°27'29	84-098	THAILAND, UTTARIDIT, MAE NAM NAN R., C-80
100°36.9E	17°20.7N	12/ 8/73	2°27'35	84-099	THAILAND, MAE NAM NAN R., C-85
100°52.7E	17°01.7N	12/ 8/73	2°27'42	84-100	THAILAND, C-90
101°58.9E	15°39.3N	12/ 8/73	2°28'09	28-141	THAILAND, CHATURAT, NAHON RATCHASIMA C-65
101°55.6E	15°44.3N	12/ 8/73	2°28'08	84-104	THAILAND, CHATURAT, C-40
101°10.5E	16°37.2N	12/ 8/73	2°27'49	28-139	THAILAND, MAE NAM PA SAK RIV. C-75
101°34.9E	16°08.3N	12/ 8/73	2°27'59	28-140	THAILAND, MAE NAM PA SAK RIV. C-70
101°08.2E	16°40.6N	12/ 8/73	2°27'48	84-101	THAILAND, PETCHABUN, MAE NAM PASAK R., C-80
101°24.0E	16°21.8N	12/ 8/73	2°27'55	84-102	THAILAND, PETCHABUN, MAE NAM PASAK R., C-80
101°39.8E	16°03.1N	12/ 8/73	2°28'01	84-103	THAILAND, KESET, SOMBUN, C-65
102°23.0E	15°10.5N	12/ 8/73	2°28'19	28-142	THAILAND, NAHON RATCHASIMA, C-65
102°11.5E	15°25.5N	12/ 8/73	2°28'14	84-105	THAILAND, NAKHON RATCHASIMA, C-30
111°58.8E	2°53.0N	12/ 8/73	2°32'25	28-145	SOUTH CHINA SEA C-99
111°56.5E	2°57.1N	12/ 8/73	2°32'28	84-109	SOUTH CHINA SEA, C-100
111°13.6E	3°53.0N	12/ 8/73	2°32'09	28-143	SOUTH CHINA SEA C-100
111°36.0E	3°23.2N	12/ 8/73	2°32'19	28-144	SOUTH CHINA SEA C-99
111°12.6E	3°55.2N	12/ 8/73	2°32'09	84-106	SOUTH CHINA SEA, C-100
111°27.5E	3°35.9N	12/ 8/73	2°32'15	84-107	SOUTH CHINA SEA, C-100
111°42.0E	3°16.4N	12/ 8/73	2°32'22	84-108	SOUTH CHINA SEA, C-100
112°43.3E	1°53.5N	12/ 8/73	2°32'49	28-147	SOUTH CHINA SEA, BORNEO, SARAWAK COAST, C-95
112°40.0E	1°59.0N	12/ 8/73	2°32'48	84-112	MALASIA (SARAWAK) BORNEU I., C-98
112°54.5E	1°39.5N	12/ 8/73	2°32'54	84-113	MALASIA (SARAWAK) BORNEU I., C-90
112°20.9E	2°23.2N	12/ 8/73	2°32'39	28-146	SOUTH CHINA SEA, BORNEO, SARAWAK COAST, C-95

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
112°11.0E	2°37.7N	12/ 8/73	2°32'35	84-110	SOUTH CHINA SEA, C-100
112°25.5E	2°18.4N	12/ 8/73	2°32'41	84-111	MALASIA (SARAWAK) BORNEU I., C-100
113°27.8E	0°54.0N	12/ 8/73	2°33'09	28-149	MALASIA (SARAWAK), C-95
113°50.2E	0°24.2N	12/ 8/73	2°33'19	28-150	MALASIA (SARAWAK), INDONESIA (BORNEO), C-95
113°38.0E	0°41.5N	12/ 8/73	2°33'14	84-116	MALASIA (SARAWAK) INDONESIA, BORNEO I., BALCH R., C-80
113°05.7E	1°23.7N	12/ 8/73	2°32'59	28-148	MALASIA (SARAWAK), C-95
113°09.0E	1°20.2N	12/ 8/73	2°33'01	84-114	MALASIA (SARAWAK) BORNEU I., BALCH,
113°23.5E	1°01.0N	12/ 8/73	2°33'07	84-115	MALASIA (SARAWAK) INDONESIA, BORNEO I., BALCH R., C-75
118°18.4E	5°33.0S	12/ 8/73	2°35'19	28-151	INDONESIA, PELAU TANAKETE, C-35
119°48.7E	7°31.6S	12/ 8/73	2°35'59	28-153	INDONESIA, PELAU, SERAJA-BESAR, JAVA SEA, C-35
119°03.3E	6°32.3S	12/ 8/73	2°35'39	28-152	INDONESIA, PELAU, SABALANA, PELAU TANAKETE, C-30
120°34.6E	8°31.1S	12/ 8/73	2°36'19	28-154	INDONESIA, FLORES IS., C-15
121°20.4E	9°30.1S	12/ 8/73	2°36'39	28-155	INDONESIA, FLORES IS., SAVU SEA
122°52.7E	11°27.8S	12/ 8/73	2°37'19	28-157	INDONESIA, ROTI IS., ASHMORE IS., HIBERNIA REEF
122°06.2E	10°28.9S	12/ 8/73	2°36'59	28-156	INDONESIA, SAMU IS., ROTI IS.
123°39.5E	12°26.3S	12/ 8/73	2°37'39	28-158	TIMOR SEA, ASHMORE IS., HIBERNIA REEF, CARTIER IS.
131°57.0E	21°49.0S	12/ 8/73	2°40'59	28-159	AUSTRALIA, NORTH TERRITORY
131°52.2E	21°57.5S	12/ 8/73	2°40'58	84-117	AUSTRALIA, NORTHERN TERRITORY, C-10
132°21.0E	22°19.0S	12/ 8/73	2°41'09	28-160	AUSTRALIA, NORTH TERRITORY, LANDER RIV.
132°49.0E	22°50.0S	12/ 8/73	2°41'19	28-161	AUSTRALIA, NORTH TERRITORY, MACDONNELL RANGE
132°10.0E	22°16.7S	12/ 8/73	2°41'05	84-118	AUSTRALIA, NORTHERN TERRITORY, MT. ECLIPSE, C-15
132°27.4E	22°35.5S	12/ 8/73	2°41'12	84-119	AUSTRALIA, NORTHERN TERRITORY, STEWART BLUFF, C-35
132°45.6E	22°54.1S	12/ 8/73	2°41'18	84-120	AUSTRALIA, NORTHERN TERRITORY, MT. WEDGE, C-55
133°57.7E	24°08.1S	12/ 8/73	2°41'45	84-124	AUSTRALIA, NORTHERN TERRITORY, ALICE SPRINGS, MACDONNELL RANGE, C-20
133°17.0E	23°22.0S	12/ 8/73	2°41'29	28-162	AUSTRALIA, NORTH TERRITORY, ALICE SPRINGS, MACDONNELL RANGE
133°40.6E	23°52.2S	12/ 8/73	2°41'39	28-163	AUSTRALIA, NORTH TERRITORY, MACDONNELL RANGE, ALICE SPRINGS C-20
133°03.4E	23°12.3S	12/ 8/73	2°41'25	84-121	AUSTRALIA, NORTHERN TERRITORY, MACDONNELL RANGES
133°21.5E	23°30.7S	12/ 8/73	2°41'32	84-122	AUSTRALIA, NORTHERN TERRITORY, MACDONNELL RANGES C-50
133°39.3E	23°50.0S	12/ 8/73	2°41'38	84-123	AUSTRALIA, NORTHERN TERRITORY, ALICE SPRINGS, C-25
134°08.0E	24°19.3S	12/ 8/73	2°41'49	28-164	AUSTRALIA, NORTH TERRITORY, ALICE SPRINGS, MACDONNELL RANGE C-20
134°35.3E	24°47.4S	12/ 8/73	2°41'59	28-165	AUSTRALIA, NORTH TERRITORY, SIMPSON DESERT C-50
134°15.9E	24°26.6S	12/ 8/73	2°41'52	84-125	AUSTRALIA, NORTHERN TERRITORY, MACDONNELL RANGES, C-30
134°34.3E	24°45.4S	12/ 8/73	2°41'59	84-126	AUSTRALIA, NORTHERN TERRITORY, SIMPSON DESERT, C-80
134°08.0E	33°05.0N	18/ 9/73	0°24'40	46-139	JAPAN, C-100
135°55.4E	26°05.3S	12/ 8/73	2°42'28	84-128	AUSTRALIA, C-97
135°30.7E	25°42.2S	12/ 8/73	2°42'19	28-166	AUSTRALIA, NORTH TERRITORY, SIMPSON DESERT C-80
135°15.2E	25°26.1S	12/ 8/73	2°42'13	84-127	AUSTRALIA, C-98
135°16.0E	33°55.0N	18/ 9/73	0°25'00	46-140	JAPAN, C-100
136°27.0E	26°36.3S	12/ 8/73	2°42'39	28-167	AUSTRALIA, NORTH TERRITORY, SIMPSON DESERT C-40
136°36.3E	26°44.2S	12/ 8/73	2°42'42	84-129	AUSTRALIA, SOUTH AUSTRALIA, LAKE EYRE BASIN, C-35
136°23.4E	34°06.1N	18/ 9/73	0°25'20	46-141	JAPAN, C-100
136°39.9E	34°18.1N	18/ 9/73	0°25'25	88-181	JAPAN, C-100
137°59.7E	28°01.5S	12/ 8/73	2°43'11	84-131	AUSTRALIA, SOUTH AUSTRALIA, STURT DESERT, C-90
137°24.4E	27°29.5S	12/ 8/73	2°42'59	28-168	AUSTRALIA, NORTH TERRITORY, SOUTH AUSTRALIA, SIMPSON DESERT C-35
137°17.8E	27°22.3S	12/ 8/73	2°42'57	84-130	AUSTRALIA, SOUTH AUSTRALIA, BARCOO CREEK, C-30
137°31.3E	34°54.7N	18/ 9/73	0°25'40	46-142	JAPAN, C-100
137°02.3E	34°34.3N	18/ 9/73	0°25'32	88-182	JAPAN, C-100
137°25.1E	34°50.3N	18/ 9/73	0°25'38	88-183	JAPAN, C-100
137°47.8E	35°06.2N	18/ 9/73	0°25'45	88-184	JAPAN, C-100
138°22.7E	28°23.6S	12/ 8/73	2°43'19	28-169	AUSTRALIA, SOUTH AUSTRALIA, THE WARBURTON C-85
138°41.8E	28°39.7S	12/ 8/73	2°43'25	84-132	AUSTRALIA, SOUTH AUSTRALIA, STURT DESERT, C-85
138°05.6E	35°18.8N	18/ 9/73	0°25'50	46-143	JAPAN, C-100
138°40.5E	35°42.7N	18/ 9/73	0°26'00	46-144	JAPAN, C-100
138°10.5E	35°22.1N	18/ 9/73	0°25'52	88-185	JAPAN, C-100
138°33.6E	35°37.9N	18/ 9/73	0°25'58	88-186	JAPAN, C-100
138°56.7E	35°53.7N	18/ 9/73	0°26'05	88-187	JAPAN, C-100
139°22.4E	29°16.5S	12/ 8/73	2°43'39	28-170	AUSTRALIA, SOUTH AUSTRALIA, COOPER'S CREEK C-75
139°24.7E	29°17.8S	12/ 8/73	2°43'40	84-133	AUSTRALIA, SOUTH AUSTRALIA, STRZELECKI CREEK, C-80
139°16.1E	36°06.6N	18/ 9/73	0°26'10	46-145	JAPAN, C-100
139°51.7E	36°30.1N	18/ 9/73	0°26'20	46-146	JAPAN, C-100
139°20.1E	36°09.4N	18/ 9/73	0°26'11	88-188	JAPAN, C-100
139°43.8E	36°24.9N	18/ 9/73	0°26'18	88-189	JAPAN, C-100
140°22.7E	30°08.7S	12/ 8/73	2°43'55	28-171	AUSTRALIA, SOUTH AUSTRALIA, NEW S. WALES, STRZELECKI CREEK C-50

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SL90 A+B ROLL-FRAME	LOCATION AND COMMENTS
140°52.4E	30°32.9S	12/ 8/73	2'44'09	84-135	AUSTRALIA, NEW SOUTH WALES, STURT DESERT, C-30
140°08.2E	29°55.5S	12/ 8/73	2'43'54	84-134	AUSTRALIA, NEW SOUTH WALES, STURT DESERT, C-70
140°27.6E	36°53.4N	18/ 9/73	0'26'30	46-147	JAPAN, SENDAI, C-75
140°07.2E	36°40.3N	18/ 9/73	0'26'25	88-190	JAPAN, C-100
140°31.3E	36°55.7N	18/ 9/73	0'26'31	88-191	JAPAN, YAMAJATA, C-96
140°55.3E	37°10.8N	18/ 9/73	0'26'38	88-192	JAPAN, SENDAI, C-75
141°25.0E	31°00.8S	12/ 8/73	2'44'15	28-172	AUSTRALIA, NEW S. WALES, NOONTHORANGEE MTS., C-40
141°37.2E	31°10.0S	12/ 8/73	2'44'23	84-136	AUSTRALIA, NEW SOUTH WALES, NOONTHORANGEE RANGE, C-65
141°03.9E	37°16.4N	18/ 9/73	0'26'40	46-148	JAPAN, SENDAI, C-70
141°41.1E	37°39.5N	18/ 9/73	0'26'50	46-149	JAPAN, SENDAI HAW, KINKAZAN-TO, C-50
141°19.4E	37°26.2N	18/ 9/73	0'26'44	88-193	JAPAN, SENDAI, C-60
141°43.8E	37°41.2N	18/ 9/73	0'26'51	88-194	PACIFIC OCEAN, C-50
142°27.6E	31°51.9S	12/ 8/73	2'44'39	28-173	AUSTRALIA, NEW S. WALES, DARLING RIV. C-80
142°22.3E	31°46.8S	12/ 8/73	2'44'37	84-137	AUSTRALIA, NEW SOUTH WALES, NOONTHORANGEE RANGE, C-85
142°08.5E	37°56.1N	18/ 9/73	0'26'58	88-195	PACIFIC OCEAN, C-50
142°18.4E	38°02.2N	18/ 9/73	0'27'00	46-150	JAPAN, KINKAZAN-TO, C-40
142°56.0E	38°24.5N	18/ 9/73	0'27'10	46-151	PACIFIC OCEAN OFF JAPAN, C-40
142°33.2E	38°11.1N	18/ 9/73	0'27'04	88-196	PACIFIC OCEAN, C-55
142°57.9E	38°25.8N	18/ 9/73	0'27'11	88-197	PACIFIC OCEAN, C-60
143°31.9E	32°42.6S	12/ 8/73	2'44'59	28-174	AUSTRALIA, NEW S. WALES, C-80
143°08.5E	32°23.4S	12/ 8/73	2'44'52	84-138	AUSTRALIA, NEW SOUTH WALES, DARLING R., C-80
143°54.9E	32°59.4S	12/ 8/73	2'45'06	84-139	AUSTRALIA, NEW SOUTH WALES, DARLING R., C-92
143°33.9E	38°46.7N	18/ 9/73	0'27'20	46-152	PACIFIC OCEAN OFF JAPAN, C-30
143°23.0E	38°40.5N	18/ 9/73	0'27'17	88-198	PACIFIC OCEAN, C-45
143°48.4E	38°55.1N	18/ 9/73	0'27'24	88-199	PACIFIC OCEAN, C-25
144°37.1E	33°32.2S	12/ 8/73	2'45'15	28-175	AUSTRALIA, NEW S. WALES, C-92
144°42.4E	33°35.4S	12/ 8/73	2'45'21	84-140	AUSTRALIA, NEW SOUTH WALES, C-92
144°12.7E	39°09.0N	18/ 9/73	0'27'30	46-153	PACIFIC OCEAN OFF JAPAN, C-20
144°51.6E	39°30.6N	18/ 9/73	0'27'40	46-154	PACIFIC OCEAN OFF JAPAN, C-20
144°13.7E	39°09.6N	18/ 9/73	0'27'31	88-200	PACIFIC OCEAN, C-25
144°39.4E	39°24.0N	18/ 9/73	0'27'37	88-201	PACIFIC OCEAN, C-25
145°44.4E	34°21.7S	12/ 8/73	2'45'39	28-176	AUSTRALIA, NEW S. WALES, GRIFFITH, C-60
145°30.5E	34°10.8S	12/ 8/73	2'45'35	84-141	AUSTRALIA, NEW SOUTH WALES, WAGGA WAGGA, C-80
145°30.5E	39°52.0N	18/ 9/73	0'27'50	46-155	PACIFIC OCEAN OFF JAPAN, C-25
145°05.1E	39°38.3N	18/ 9/73	0'27'44	88-202	PACIFIC OCEAN, C-25
145°31.2E	39°52.5N	18/ 9/73	0'27'50	88-203	PACIFIC OCEAN, C-15
145°57.5E	40°06.5N	18/ 9/73	0'27'57	88-204	PACIFIC OCEAN, C-18
146°52.3E	35°10.0S	12/ 8/73	2'45'59	28-177	AUSTRALIA, NEW S. WALES, WAGGA WAGGA, TEMORA C-30
146°19.3E	34°45.9S	12/ 8/73	2'45'49	84-142	AUSTRALIA, NEW SOUTH WALES, TORCUTTO CREEK, C-70
146°10.4E	40°13.1N	18/ 9/73	0'28'00	46-156	PACIFIC OCEAN OFF JAPAN, C-30
146°23.9E	40°20.3N	18/ 9/73	0'28'04	88-205	PACIFIC OCEAN, C-20
146°50.6E	40°34.2N	18/ 9/73	0'28'10	88-206	PACIFIC OCEAN, C-12
147°20.3E	35°29.2S	12/ 8/73	2'46'07	28-178	AUSTRALIA, NEW S. WALES, WAGGA WAGGA, TEMORA C-30
147°48.3E	35°48.4S	12/ 8/73	2'46'15	28-179	AUSTRALIA, NEW S. WALES, VICTORIA, SNOW RANGE
147°57.2E	35°53.6S	12/ 8/73	2'46'18	84-143	AUSTRALIA, NEW SOUTH WALES, TUMUT R., SNOWY MTS.
147°17.3E	40°47.9N	18/ 9/73	0'28'17	88-207	PACIFIC OCEAN, C-15
148°16.3E	36°07.5S	12/ 8/73	2'46'23	28-180	AUSTRALIA, NEW S. WALES, VICTORIA, SNOW RANGE, ENCUMBENE RES.
148°44.3E	36°25.9S	12/ 8/73	2'46'31	28-181	AUSTRALIA, NEW S. WALES, VICTORIA, SNOW RANGE, COOMA C-20
148°20.3E	36°09.3S	12/ 8/73	2'46'24	84-144	AUSTRALIA, NEW SOUTH WALES, SNOWY MTS., LAKE EUCUMBENE
148°44.0E	36°24.8S	12/ 8/73	2'46'31	84-145	AUSTRALIA, NEW SOUTH WALES, COOMA, LAKE EUCUMBENE
149°42.0E	37°03.3S	12/ 8/73	2'46'47	28-183	AUSTRALIA, NEW S. WALES, VICTORIA, BEGA C-35
149°55.2E	37°10.8S	12/ 8/73	2'46'51	84-148	AUSTRALIA, NEW SOUTH WALES, VICTORIA, CAPE HOWE, BEGA, C-30
149°13.0E	36°44.7S	12/ 8/73	2'46'39	28-182	AUSTRALIA, NEW S. WALES, VICTORIA, COOMA, BEGA, C-30
149°07.4E	36°40.1S	12/ 8/73	2'46'37	84-146	AUSTRALIA, NEW SOUTH WALES, BEGA, COOMA, C-15
149°31.1E	36°55.6S	12/ 8/73	2'46'44	84-147	AUSTRALIA, NEW SOUTH WALES, VICTORIA, BEGA, MERIMBOLA, C-20
150°19.2E	37°25.9S	12/ 8/73	2'46'57	84-149	AUSTRALIA, NEW SOUTH WALES, VICTORIA, CAPE HOWE, C-50
150°43.2E	37°41.0S	12/ 8/73	2'47'04	84-150	CLOUDS OVER PACIFIC NEAR NEW ZEALAND, C-60
151°21.4E	38°11.3S	12/ 8/73	2'47'17	84-152	PACIFIC NEAR NEW ZEALAND C-45
151°07.3E	37°56.1S	12/ 8/73	2'47'11	84-151	PACIFIC NEAR NEW ZEALAND C-45
152°03.7E	38°29.9S	12/ 8/73	2'47'26	28-184	TASMAN SEA, C-50
156°22.1E	40°51.3S	12/ 8/73	2'48'32	28-185	TASMAN SEA, C-75
0°00.0W	0°00.0N	12/ 8/73	15'35'00	28-280	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15'35'02	28-281	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15'35'04	28-282	LUNAR CALIBRATION

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
0°00.0W	0°00.0N	12/ 8/73	15°35°30	28-283	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°39°32	28-284	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°39°34	28-285	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°34°00	28-286	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°40°02	28-287	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°40°04	28-288	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°02°28	28-289	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°02°30	28-290	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°02°32	28-291	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°02°58	28-292	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°03°00	28-293	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°03°02	28-294	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°03°28	28-295	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°03°30	28-296	LUNAR CALIBRATION
0°00.3W	0°00.0N	12/ 8/73	16°03°32	28-297	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°47°45	34-329	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°47°45	34-330	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°48°15	34-331	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°48°23	34-332	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°49°27	34-333	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°49°31	34-334	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°00	85-131	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°06	85-132	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°12	85-133	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°29	85-134	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°35	85-135	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°49°42	85-136	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°50°00	85-137	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°50°06	85-138	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°50°12	85-139	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°51°00	85-140	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°51°03	85-141	LUNAR CALIBRATION
0°00.0W	0°00.0N	12/ 8/73	15°51°06	85-142	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°57°28	86-215	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°57°51	86-216	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°58°11	86-217	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°59°51	86-218	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	13°59°56	86-219	LUNAR CALIBRATION
0°00.0W	0°00.0N	11/ 9/73	14°01°01	86-220	LUNAR CALIBRATION

SKYLAB 4 PHOTOGRAPHIC INDEX

Abbreviations and symbols are explained on pages 183 and 184.

SL-4

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
160°00.0W	50°00.0S	15/12/73	0°24'17	91-287	PACIFIC O., C-35
159°50.0W	50°00.0S	15/12/73	0°24'19	91-288	PACIFIC O., C-35
159°40.0W	50°00.0S	15/12/73	0°24'21	91-289	PACIFIC O., C-35
149°12.7W	50°03.7N	25/ 1/74	17°25'30	76-315	PACIFIC O. OFF WASH., DARKNESS
147°18.6W	49°56.8N	25/ 1/74	17°25'50	76-316	PACIFIC O. OFF WASH., DARKNESS
145°25.6W	49°47.7N	29/ 1/74	17°26'10	76-317	PACIFIC O. OFF WASH., DARKNESS
143°32.9W	49°36.7N	29/ 1/74	17°26'30	76-318	PACIFIC O. OFF WASH., DARKNESS
141°41.5W	49°23.7N	29/ 1/74	17°26'50	76-319	PACIFIC O. OFF WASH., C-90
139°51.1W	49°08.8N	29/ 1/74	17°27'10	76-320	PACIFIC O. OFF WASH., C-95
138°03.3W	48°52.2N	25/ 1/74	17°27'29	76-321	PACIFIC O. OFF WASH., C-93
136°13.9W	48°33.3N	25/ 1/74	17°27'49	76-322	PACIFIC O. OFF WASH., C-88
134°27.7W	48°12.8N	25/ 1/74	17°28'09	76-323	PACIFIC O. OFF WASH., C-94
132°43.5W	47°45.6N	29/ 1/74	17°28'29	76-324	PACIFIC O. OFF WASH., C-95
130°59.4W	47°26.5N	29/ 1/74	17°28'49	76-325	PACIFIC O. OFF WASH., C-92
130°56.3W	50°02.0N	20/ 1/74	19°06'36	92-225	PACIFIC OCEAN OFF VANCOUVER I., C-50
129°06.1W	43°45.5N	1/ 2/74	16°56'52	48-001	PACIFIC O. OFF OREGON
129°17.9W	47°00.8N	25/ 1/74	17°29'09	76-326	PACIFIC O. OFF WASH., C-97
129°29.1W	50°11.1N	24/ 1/74	17°50'52	70-315	PACIFIC O. OFF VANCOUVER I., C-50
129°31.0W	50°10.6N	20/ 1/74	19°06'51	92-226	PACIFIC OCEAN OFF VANCOUVER I., C-20
128°01.0W	41°16.0N	26/ 1/74	19°40'00	▲ 76-062	PACIFIC O. OFF CALIF., C-40
128°39.0W	43°38.6N	1/ 2/74	16°56'58	48-002	PACIFIC O. OFF OREGON, C-40
128°13.0W	43°28.0N	1/ 2/74	16°57'04	48-003	PACIFIC O. OFF OREGON, C-40
128°31.8W	50°10.2N	24/ 1/74	17°51'02	70-316	PACIFIC O. OFF VANCOUVER I., C-50
127°30.0W	40°00.0S	6/ 1/74	16°01'43	91-335	PACIFIC OCEAN, C-80
127°42.0W	39°45.0S	6/ 1/74	16°01'47	91-336	PACIFIC OCEAN, C-80
127°25.5W	38°24.8N	2/12/73	18°17'07	* 52-204	PACIFIC O. OFF CALIF., C-20
127°20.3W	40°55.8N	26/ 1/74	19°40'10	▲ 76-063	PACIFIC O. OFF CALIF., C-40
127°46.3W	43°17.0N	1/ 2/74	16°57'10	48-004	PACIFIC O. OFF OREGON, C-40
127°19.3W	43°05.6N	1/ 2/74	16°57'16	48-005	PACIFIC O. OFF OREGON, C-40
127°49.9W	43°17.7N	1/ 2/74	16°57'09	94-201	PACIFIC O. OFF ORE., C-20
127°22.6W	43°06.3N	1/ 2/74	16°57'15	94-202	PACIFIC O. OFF ORE., C-20
127°38.1W	46°33.4N	25/ 1/74	17°29'29	76-327	PACIFIC O. OFF WASH., C-100
127°34.4W	50°08.5N	24/ 1/74	17°51'12	70-317	PACIFIC O. OFF VANCOUVER I., C-56
127°56.5W	50°08.5N	24/ 1/74	17°51'08	93-201	PACIFIC O. OFF BRITISH COLUMBIA, C-85
127°20.3W	50°07.3N	24/ 1/74	17°51'14	93-202	PACIFIC O. OFF BRITISH COLUMBIA, C-95
126°04.1W	37°35.5N	2/12/73	18°17'28	* 52-205	PACIFIC O. OFF CALIF., C-30
126°40.7W	40°35.7N	26/ 1/74	19°40'19	▲ 76-064	PACIFIC O. OFF CALIF., C-40
126°54.2W	42°54.5N	1/ 2/74	16°57'22	48-006	PACIFIC O. OFF OREGON, C-50
126°27.5W	42°43.4N	1/ 2/74	16°57'28	48-007	PACIFIC O. OFF OREGON, C-50
126°02.8W	42°32.3N	1/ 2/74	16°57'34	48-008	PACIFIC O. OFF OREGON, C-50
126°55.9W	42°54.8N	1/ 2/74	16°57'22	94-203	PACIFIC O. OFF ORE., C-20
126°28.9W	42°43.2N	1/ 2/74	16°57'28	94-204	PACIFIC O. OFF ORE., C-20
126°01.5W	42°31.0N	1/ 2/74	16°57'34	94-205	PACIFIC O. OFF ORE., C-20
126°36.8W	50°06.4N	24/ 1/74	17°51'22	70-318	BRITISH COLUMBIA, C-100
126°54.9W	50°11.0N	20/ 1/74	19°07'16	92-227	BRITISH COLUMBIA, VANCOUVER I., TELEGRAPH COVE, S-40
126°44.3W	50°06.0N	24/ 1/74	17°51'20	93-203	BRITISH COLUMBIA, C-100
126°08.7W	50°04.4N	24/ 1/74	17°51'27	93-204	BRITISH COLUMBIA, C-100
125°20.0W	39°53.2N	26/ 1/74	19°40'40	▲ 76-066	CALIF., PUNTA GORDA, POINT DELGADA, C-30
125°59.9W	40°14.4N	26/ 1/74	19°40'30	▲ 76-065	PACIFIC O. OFF CALIF., C-40
125°36.5W	42°20.6N	1/ 2/74	16°57'40	48-009	PACIFIC O. OFF OREGON, C-50
125°10.4W	42°08.5N	1/ 2/74	16°57'46	48-010	PACIFIC O. OFF OREGON, CALIF., C-60
125°35.5W	42°19.3N	1/ 2/74	16°57'40	94-206	PACIFIC O. OFF ORE., C-25
125°08.1W	42°07.0N	1/ 2/74	16°57'47	94-207	PACIFIC O. OFF ORE., C-25
125°49.6W	44°23.6N	28/ 1/74	18°13'21	A4-001	PACIFIC O. OFF OREGON, C-85
125°03.8W	44°06.3N	28/ 1/74	18°13'31	A4-002	PACIFIC O. OFF OREGON, C-80
125°58.2W	46°04.1N	25/ 1/74	17°29'50	76-328	PACIFIC O. OFF WASH., C-100
125°39.7W	50°03.7N	24/ 1/74	17°51'32	70-319	BRITISH COLUMBIA, C-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
125°37.8W	50°11.1N	20/ 1/74	19°07'29	92-228	BRITISH COLUMBIA, VANCOUVER I., JOHNSTONE STRAIT, CAMPBELL R., S-40
125°32.8W	50°02.6N	24/ 1/74	17°51'33	93-205	BRITISH COLUMBIA, C-100
124°42.0W	39°34.6N	3/12/73	17°34'01	* 52-271	CALIF., C-100
124°03.8W	39°12.8N	3/12/73	17°34'11	* 52-272	CALIF., COAST RANGE, C-80
124°40.8W	39°31.7N	26/ 1/74	19°40'50	▲ 76-067	CALIF., POINT DELGADA, FT. BRAGG, TENMILE R., C-20
124°01.9W	39°10.0N	26/ 1/74	19°41'00	▲ 76-068	CALIF., POINT ARENA, FT. BRAGG, NAVARRO, C-15
124°46.0W	41°57.6N	1/ 2/74	16°57'52	48-011	ORE., COAST, PACIFIC O., C-60
124°20.3W	41°45.5N	1/ 2/74	16°57'58	48-012	CALIF., ORE., COASTAL RANGE, C-80
124°42.1W	41°54.5N	1/ 2/74	16°57'53	94-208	PACIFIC O. OFF ORE., C-35
124°16.0W	41°42.7N	1/ 2/74	16°57'59	94-209	PACIFIC O. OFF ORE., C-60
124°18.7W	43°48.5N	28/ 1/74	18°13'41	A4-003	OREGON, ROSEBURG, C-90
124°22.0W	45°33.8N	25/ 1/74	17°30'10	76-329	ORE., C-100
124°42.4W	50°00.6N	24/ 1/74	17°51'42	70-320	BRITISH COLUMBIA, C-100
124°20.6W	50°10.2N	20/ 1/74	19°07'42	92-229	BRITISH COLUMBIA, STRAIT OF GEORGIA, POWELL R., S-80
123°25.6W	38°51.0N	3/12/73	17°34'21	* 52-273	CALIF., POINT REYES, SANTA ROSA, CLEAR LAKE, C-70
123°23.6W	38°48.2N	26/ 1/74	19°41'10	▲ 76-069	CALIF., CLEAR LAKE, THE GEYSERS, POINT REYES, BODEGA BAY
123°37.5W	38°55.3N	26/ 1/74	19°41'06	92-333	CALIF., POINT ARENA
123°12.8W	38°41.0N	26/ 1/74	19°41'12	92-334	CALIF., POINT REYES, SANTA ROSA, UKIAH, THE GEYSERS
123°44.1W	39°00.7N	3/12/73	17°34'16	90-245	CALIFORNIA, RUSSIAN R. C-60
123°54.0W	41°33.4N	1/ 2/74	16°58'04	48-013	CALIF., ORE., COASTAL RANGE, PACIFIC O., C-80
123°30.9W	41°21.8N	1/ 2/74	16°58'10	48-014	CALIF., COASTAL RANGE, PACIFIC O., C-80, S-10
123°05.8W	41°09.5N	1/ 2/74	16°58'16	48-015	CALIF., MT. SHASTA, COASTAL RANGES, PACIFIC O., C-80, S-10
123°50.0W	41°30.2N	1/ 2/74	16°58'05	94-210	PACIFIC O. OFF ORE., C-60
123°24.0W	41°17.5N	1/ 2/74	16°58'12	94-211	CALIF., ORE., COAST LINE, COASTAL RANGES, C-93
123°33.8W	43°30.4N	28/ 1/74	18°13'51	A4-004	OREGON, ROSEBURG, C-90
123°34.8W	45°18.0N	29/ 1/74	17°30'20	76-330	ORE., C-100
123°59.2W	45°25.4N	25/ 1/74	17°30'14	94-070	OREGON, C-100
123°45.4W	49°57.0N	24/ 1/74	17°51'52	70-321	BRITISH COLUMBIA, WASH., C-100
123°02.5W	50°08.2N	20/ 1/74	19°07'56	92-230	BRITISH COLUMBIA, COASTAL MTS., SQUALISH R., S-100, C-20
122°01.0W	34°54.4N	2/12/73	18°18'37	90-174	PACIFIC OCEAN OFF CALIFORNIA
122°24.3W	35°11.2N	2/12/73	18°18'30	* 52-206	PACIFIC O. OFF CALIF.
122°03.2W	37°59.6N	26/ 1/74	19°41'31	92-337	CALIF., SAN FRANCISCO, AMES-NASA, STOCKTON, OAKLAND
122°47.7W	38°26.5N	3/12/73	17°34'31	* 52-274	CALIF., POINT REYES, RUSSIAN R., SACRAMENTO, C-65
122°10.1W	38°06.5N	3/12/73	17°34'41	* 52-275	CALIF., SAN FRANCISCO, POINT REYES, SACRAMENTO, C-70
122°10.5W	38°24.6N	26/ 1/74	19°41'20	▲ 76-070	CALIF., SAN FRANCISCO BAY AREA, POINT REYES, SACRAMENTO
122°54.3W	38°31.5N	3/12/73	17°34'29	90-246	CALIFORNIA, POINT REYES, BODEGA BAY, RUSSIAN R. C-40
122°03.9W	38°01.5N	3/12/73	17°34'43	90-247	CALIFORNIA, SAN FRANCISCO, SAN PABLO BAY, NOVATO C-30
122°50.0W	38°27.6N	26/ 1/74	19°41'19	92-335	CALIF., SAN PABLO BAY, POINT REYES, SANTA ROSA, LAKE BERRY ESSA
122°26.3W	38°13.6N	26/ 1/74	19°41'25	92-336	CALIF., SAN FRANCISCO, SACRAMENTO R., OAKLAND, CONCORD
122°42.1W	40°57.8N	1/ 2/74	16°58'22	48-016	CALIF., MT. SHASTA, SACRAMENTO R., COASTAL RANGE, C-70, S-10
122°17.4W	40°45.1N	1/ 2/74	16°58'28	48-017	CALIF., SACRAMENTO R., RED BLUFF, MT. SHASTA, C-50, S-20
122°10.5W	40°19.4N	27/ 1/74	18°57'50	76-214	CALIF., RED BLUFF, SACRAMENTO R., C-35
122°33.2W	40°52.5N	1/ 2/74	16°58'24	94-213	CALIF., COTTONWOOD CREEK, CLAIR ENGLE LAKE, C-85
122°08.6W	40°40.0N	1/ 2/74	16°58'30	94-214	CALIF., SACRAMENTO R., RED BLUFF, C-80
122°58.6W	41°05.0N	1/ 2/74	16°58'18	94-212	CALIF., COASTAL RANGE, KLAMATH R., C-90
122°05.2W	42°53.1N	28/ 1/74	18°14'11	A4-006	OREGON CALIF., TULE LAKE, KLAMATH LAKE, CRATER LAKE, S-40, C-60
122°49.4W	43°11.7N	28/ 1/74	18°14'01	A4-005	OREGON CRATER LAKE, CRESENT LAKE, C-60
122°01.2W	44°45.2N	29/ 1/74	17°30'40	76-332	ORE., CASCADE RANGE, C-50
122°47.7W	45°01.6N	29/ 1/74	17°30'30	76-331	ORE., C-96
122°56.3W	45°04.0N	29/ 1/74	17°30'28	94-071	ORE., C-100
122°52.3W	49°53.0N	24/ 1/74	17°52'01	70-322	BRITISH COLUMBIA, WASH., C-100
121°48.7W	26°35.5N	14/ 1/74	16°56'00	70-092	PACIFIC O. OFF MEXICO, C-25
121°42.9W	26°40.7N	14/ 1/74	16°56'10	70-093	PACIFIC O. OFF MEXICO, C-25
121°37.1W	26°55.5N	14/ 1/74	16°56'20	70-094	PACIFIC O. OFF MEXICO, C-25
121°49.7W	34°46.8N	2/12/73	18°18'40	* 52-207	CALIF., POINT ARGUELLO, POINT CONCEPCION, VANDENBERG
121°15.8W	34°22.6N	2/12/73	18°18'50	* 52-208	CALIF., VANDENBERG, POINT ARGUELLO, SAN MIGUEL I.
121°40.5W	34°36.2N	2/12/73	18°18'43	90-175	PACIFIC OCEAN OFF CALIFORNIA
121°19.7W	34°24.4N	2/12/73	18°18'49	90-176	PACIFIC OCEAN OFF CALIFORNIA
121°32.9W	37°44.1N	3/12/73	17°34'51	* 52-276	CALIF., SAN FRANCISCO, SACRAMENTO R., C-65
121°23.1W	37°37.2N	26/ 1/74	19°41'40	▲ 76-072	CALIF., SAN JOSE, PALO ALTO, STOCKTON, MODESTO, PORT CHICAGO, C-10
121°14.8W	37°31.5N	3/12/73	17°34'56	90-248	CALIFORNIA, SAN JOAQUIN VALLEY, DIABLO RANGE C-80
121°40.1W	37°45.0N	26/ 1/74	19°41'37	92-338	CALIF., SAN JOSE, STOCKTON, MODESTO, LIVERMORE
121°16.7W	37°31.2N	26/ 1/74	19°41'44	92-339	CALIF., MODESTO, SAN LUIS LAKE, DIABLO RANGE, C-10
121°46.8W	38°00.5N	26/ 1/74	19°41'30	▲ 76-071	CALIF., SAN FRANCISCO BAY AREA, POINT REYES, SACRAMENTO STOCKTON
121°32.6W	39°55.0N	27/ 1/74	18°58'00	76-215	CALIF., RED BLUFF, CHICO, MARYSVILLE, SACRAMENTO R., C-20, S-10

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
121°35.2W	39°56.6N	27/ 1/74	18°58'00	94-001	CALIF., SIERRA NEVADA, S-20, C-2C
121°12.1W	39°41.8N	27/ 1/74	18°58'06	94-002	CALIF., OROVILLE, OROVILLE RES., CHICO, FEATHER R., S-30
121°52.7W	40°32.5N	1/ 2/74	16°58'34	48-018	CALIF., EAGLE LAKE, HONEY LAKE, SACRAMENTO R., RED BLUFF, C-65
121°29.6W	40°20.5N	1/ 2/74	16°58'40	48-019	CALIF., NEV., EAGLE LAKE, HONEY LAKE, SACRAMENTO R., C-70
121°05.2W	40°07.7N	1/ 2/74	16°58'46	48-020	CALIF., NEV., SIERRA NEVADA, SACRAMENTO VALLEY, SACRAMENTO R., C-70
121°43.4W	40°26.6N	1/ 2/74	16°58'36	94-215	CALIF., RED BLUFF, LAKE ALMANOR, SACRAMENTO R., C-80
121°18.1W	40°13.6N	1/ 2/74	16°58'43	94-216	CALIF., LAKE ALMANOR, C-96
121°21.7W	42°34.6N	28/ 1/74	18°14'21	A4-007	OREGON CALIF., LAKE ALBERT, KLAMATH LAKE, TULE LAKE, C-40, S-15
121°15.1W	44°28.5N	29/ 1/74	17°30'50	76-333	ORE., PAULINA LAKE, C-8C
121°53.3W	44°41.7N	29/ 1/74	17°30'41	94-072	ORE., CASCADE RANGE, C-80
121°12.5W	47°22.7N	21/ 1/74	20°02'20	64-355	WASH., LAKE CHELAN, COLUMBIA R., C-5C, S-100
121°37.2W	47°28.6N	21/ 1/74	20°02'15	92-253	WASHINGTON, C-100
121°53.7W	49°48.2N	24/ 1/74	17°52'12	70-323	BRITISH COLUMBIA, WASH., C-10C
121°46.4W	50°05.4N	20/ 1/74	19°08'09	92-231	BRITISH COLUMBIA, LILLOUET LAKE, COASTAL MTS., S-100, C-50
120°42.5W	33°56.2N	2/12/73	18°19'00	* 52-209	CALIF., POINT CONCEPCION, SANTA ROSA I., SANTA CRUZ I.
120°09.2W	33°33.6N	2/12/73	18°19'10	* 52-210	CALIF., SAN NICOLAS I., SANTA ROSA I., SAN MIGUEL I.
120°23.9W	33°53.7N	2/12/73	18°19'01	90-178	PACIFIC OCEAN OFF CALIFORNIA, SAN MIGUEL I., SANTA ROSA I.
120°17.1W	33°36.4N	2/12/73	18°19'08	90-179	PACIFIC OCEAN OFF CALIFORNIA, SAN MIGUEL I., SANTA ROSA I.
120°58.6W	34°08.5N	2/12/73	18°18'55	90-177	PACIFIC OCEAN OFF CALIFORNIA, SAN MIGUEL I.
120°20.1W	36°56.5N	3/12/73	17°35'11	* 52-278	CALIF., C-95
120°23.4W	36°45.6N	26/ 1/74	19°42'00	▲ 76-074	CALIF., SAN LUIS RES., LOS BANOS, SAN JOAQUIN R., C-50
120°08.5W	36°46.3N	26/ 1/74	19°42'02	92-342	CALIF., SAN JOAQUIN R., CALIF. AQUADUCT, MENDOTA, C-70
120°56.3W	37°21.4N	3/12/73	17°35'01	* 52-277	CALIF., DIABLO RANGE, C-80
120°59.4W	37°13.5N	26/ 1/74	19°41'50	▲ 76-073	CALIF., SAN JOSE, STOCKTON, MODESTO, LOS BANOS, C-25
120°25.3W	37°06.5N	3/12/73	17°35'10	90-249	CALIFORNIA C-93
120°53.3W	37°16.6N	26/ 1/74	19°41'50	92-340	CALIF., CAL. AQUADUCT, LOS BANOS, DIABLO RANGE, C-20
120°31.3W	37°02.8N	26/ 1/74	19°41'56	92-341	CALIF., CAL. AQUADUCT, LOS BANOS, DIABLO RANGE, C-50
120°04.6W	38°57.3N	27/ 1/74	18°58'24	94-005	CALIF., NEV., LAKE TAHOE, SIERRA NEVADA, FALLEN LEAF LAKE, CARSON PASS
120°42.1W	39°55.3N	1/ 2/74	16°58'52	48-021	CALIF., NEV., SIERRA NEVADA, C-8C, S-10
120°18.1W	39°42.3N	1/ 2/74	16°58'58	48-022	CALIF., NEV., SIERRA NEVADA, C-8C, S-10
120°55.3W	39°31.7N	27/ 1/74	18°58'10	76-216	CALIF., NEV., SIERRA NEVADA, RENO, YUBA CITY, C-10, S-25
120°18.7W	39°07.7N	27/ 1/74	18°58'20	76-217	CALIF., NEV., LAKE TAHOE, RENO, FOLSOM LAKE, SIERRA NEVADA, S-20
120°49.1W	39°26.8N	27/ 1/74	18°58'12	94-003	CALIF., SIERRA NEVADA, DONNER PASS, TRUCKEE, S-35
120°26.6W	39°12.1N	27/ 1/74	18°58'18	94-004	CALIF., NEV., LAKE TAHOE, SIERRA NEVADA, CARSON CITY, ECHO SUMMIT
120°28.3W	39°47.1N	1/ 2/74	16°58'55	94-218	CALIF., NEV., TRUCKEE, DONNER'S PASS, C-51
120°04.2W	39°33.5N	1/ 2/74	16°59'02	94-219	CALIF., NEV., LAKE TAHOE, VIRGINIA CITY, CARSON R., C-80
120°53.3W	40°00.4N	1/ 2/74	16°58'49	94-217	CALIF., LAKE ALMANOR, C-92
120°38.5W	42°14.7N	28/ 1/74	18°14'31	A4-008	NEV., CALIF., ORE., GOOSE LAKE, LAKE ALBERT, SUMMER LAKE, S-30, C-20
120°38.8W	44°11.2N	29/ 1/74	17°31'00	76-334	ORE., PAULINA LAKE, C-8C
120°51.4W	44°18.6N	29/ 1/74	17°30'55	94-073	ORE., PRINEVILLE RES., C-80
120°28.3W	47°11.6N	21/ 1/74	20°02'29	92-254	WASH., WENATCHEE, COLUMBIA R., C-8C, S-8C
120°57.3W	49°43.6N	24/ 1/74	17°52'22	70-324	BRITISH COLUMBIA, WASH., C-10C
120°00.9W	49°37.4N	24/ 1/74	17°52'32	70-325	BRITISH COLUMBIA, WASH., C-10C
120°29.3W	50°01.6N	20/ 1/74	19°08'23	92-232	BRITISH COLUMBIA, FRASER R., COASTAL MTS., S-100, C-80
119°03.6W	32°43.7N	2/12/73	18°19'30	* 52-212	CALIF., SAN NICOLAS I., SANTA BARBARA I., SAN CLEMENTE I.
119°15.9W	32°51.5N	2/12/73	18°19'26	90-182	PACIFIC OCEAN OFF CALIFORNIA, SAN NICOLAS I., SAN CLEMENTE I.
119°35.9W	33°06.6N	2/12/73	18°19'20	* 52-211	CALIF., SANTA CRUZ I., SAN NICOLAS I., SANTA BARBARA I.
119°56.3W	33°22.5N	2/12/73	18°19'14	90-180	PACIFIC OCEAN OFF CALIFORNIA, SAN NICOLAS I., SANTA ROSA I.
119°35.9W	33°07.4N	2/12/73	18°19'20	90-181	PACIFIC OCEAN OFF CALIFORNIA, SAN NICOLAS I.
119°44.1W	36°35.2N	3/12/73	17°35'21	* 52-279	CALIF., C-95
119°08.5W	36°11.8N	3/12/73	17°35'31	* 52-280	CALIF., SIERRA NEVADA MTS., C-9C
119°46.4W	36°28.4N	26/ 1/74	19°42'10	▲ 76-075	CALIF., DIABLO RANGE, SAN JOAQUIN VALLEY, C-80
119°09.3W	36°07.6N	26/ 1/74	19°42'20	▲ 76-076	CALIF., SIERRA NEVADA, LAKE ISABELLA, OWENS R., C-60
119°36.9W	36°29.6N	3/12/73	17°35'23	90-250	CALIFORNIA C-90
119°46.8W	36°34.1N	26/ 1/74	19°42'08	92-343	CALIF., CALIF. AQUADUCT, HURON, C-5C
119°42.5W	38°43.3N	27/ 1/74	18°58'30	76-218	CALIF., NEV., LAKE TAHOE, SIERRA NEVADA, WALKER LAKE, C-10, S-25
119°06.9W	38°18.6N	27/ 1/74	18°58'40	76-219	CALIF., NEV., WALKER LAKE, MONO LAKE, SIERRA NEVADA, YOSEMITE N. P.
119°41.8W	38°41.8N	27/ 1/74	18°58'30	94-006	CALIF., NEV., LAKE TAHOE, SIERRA NEVADA, CARSON CITY, S-40, C-10
119°19.1W	38°26.1N	27/ 1/74	18°58'37	94-007	CALIF., NEV., SIERRA NEVADA, HATHORNE, TIAGA PASS, S-40, C-25
119°54.3W	39°29.3N	1/ 2/74	16°59'04	48-023	CALIF., NEV., SIERRA NEVADA, LAHONTAN RES., C-70, S-10
119°31.9W	39°16.7N	1/ 2/74	16°59'10	48-024	CALIF., NEV., EAST WALKER R., LAHONTAN RES., C-50, S-15
119°08.2W	39°03.4N	1/ 2/74	16°59'16	48-025	CALIF., NEV., MONO LAKE, WALKER LAKE, LAHONTAN RES., C-40, S-10
119°01.6W	39°02.1N	4/12/73	16°51'42	90-292	NEVADA, WALKER LAKE C-8C
119°39.6W	39°20.2N	1/ 2/74	16°59'08	94-220	CALIF., NEV., LAKE TAHOE, LAHONTAN RES., CARSON R., C-70
119°16.1W	39°07.6N	1/ 2/74	16°59'14	94-221	CALIF., NEV., WALKER R., LAHONTAN RES., YERINGTON, C-40
119°56.0W	41°55.1N	28/ 1/74	18°14'41	A4-009	NEV., ORE., CALIF., GOOSE LAKE, LAKE ALBERT, BLUE JCINT LAKE, S-25
119°13.8W	41°35.2N	28/ 1/74	18°14'51	A4-010	NEV., ORE., BLACK ROCK DESERT, QUINN R., S-30
119°44.5W	43°53.5N	29/ 1/74	17°31'10	76-335	ORE., HARNEY LAKE, BURNS, S-15, S-6C

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
119°00.0W	43°36.0N	29/ 1/74	17°31'20	76-336	ORE., HARNEY LAKE, MALHEUR LAKE, BURNS, S-50, C-40
119°50.4W	43°55.2N	29/ 1/74	17°31'08	94-074	ORE., HARNEY LAKE, C-70
119°31.3W	46°56.8N	21/ 1/74	20°02'40	64-356	WASH., COLUMBIA R., GRAND COULEE, C-85, S-100
119°20.1W	46°53.2N	21/ 1/74	20°02'42	92-255	WASH., C-95
119°04.9W	49°31.1N	24/ 1/74	17°52'42	70-326	BRITISH COLUMBIA, WASH., C-100
119°12.2W	49°57.7N	20/ 1/74	19°08'36	92-233	BRITISH COLUMBIA, OKANAGAN LAKE, S-100 C-80
118°52.7W	29°16.5N	14/ 1/74	16°57'00	70-095	MEXICO, GUADALUPE I., UNIQUE CLOUD FLOW, C-90
118°22.7W	29°42.6N	14/ 1/74	16°57'10	70-096	MEXICO, GUADALUPE I., UNIQUE CLOUD FLOWS, C-80
118°31.3W	32°16.6N	2/12/73	18°19'40	* 52-213	CALIF., SAN CLEMENTE I.
118°55.4W	32°32.6N	2/12/73	18°19'33	90-183	PACIFIC OCEAN OFF CALIFORNIA, SAN CLEMENTE I.
118°35.2W	32°20.6N	2/12/73	18°19'39	90-184	PACIFIC OCEAN OFF CALIFORNIA, SAN CLEMENTE I.
118°16.5W	32°05.8N	2/12/73	18°19'45	90-185	PACIFIC OCEAN OFF CALIFORNIA
118°33.3W	35°46.3N	3/12/73	17°35'41	* 52-281	CALIF., SIERRA NEVADA MTS., C-90
118°32.3W	35°45.6N	26/ 1/74	19°42'29	▲ 76-077	CALIF., SIERRA NEVADA, CHINA LAKE, OWENS R., OLANCHA, C-40
118°49.4W	35°56.2N	3/12/73	17°35'37	90-251	CALIFORNIA, SIERRA NEVADA C-82
118°02.9W	35°26.5N	3/12/73	17°35'50	90-252	CALIFORNIA, MOJAVE DESERT C-55
118°33.3W	35°45.5N	26/ 1/74	19°42'29	92-345	CALIF., SIERRA NEVADA, KERN R., INYOKERN, C-40
118°11.5W	35°30.5N	26/ 1/74	19°42'35	92-346	CALIF., SIERRA NEVADA, CHINA LAKE, EDWARDS AFB, C-20
118°55.4W	36°00.1N	26/ 1/74	19°42'23	92-344	CALIF., SIERRA NEVADA, KERN R., LAKE ISABELLA, C-60
118°31.6W	37°53.7N	27/ 1/74	18°58'50	76-220	CALIF., NEV., MONO LAKE, SIERRA NEVADA, YOSEMITE N. P., WHITE MTS.
118°49.9W	37°55.2N	27/ 1/74	18°58'49	94-009	CALIF., NEV., BISHOP, OWENS R., WESTGARD PASS, WHITE MTS., S-10, C-30
118°12.8W	37°35.3N	27/ 1/74	18°58'56	94-010	CALIF., NEV., BISHOP, DEEP SPRINGS, OWENS R., FUREKA VALLEY, C-15
118°44.8W	38°50.0N	1/ 2/74	16°59'22	48-026	CALIF., NEV., MONO LAKE, WALKER LAKE, LAHONTAN RES., YERINGTON
118°22.7W	38°37.2N	1/ 2/74	16°59'28	48-027	CALIF., NEV., MONO LAKE, WALKER LAKE, WALKER R., BRIDGEPORT
118°36.6W	38°47.5N	4/12/73	16°51'49	90-293	NEVADA, WALKER LAKE, HAWTHORNE, YERINGTON C-50
118°14.2W	38°34.5N	4/12/73	16°51'55	90-294	NEVADA, WALKER LAKE, HAWTHORNE, LUCKY BOY PASS C-50
118°56.7W	38°10.5N	27/ 1/74	18°58'43	94-008	CALIF., NEV., MONO LAKE, TOM'S PLACE, DEVIL'S POST PILE, S-30, C-40
118°52.1W	38°53.3N	1/ 2/74	16°59'20	94-222	CALIF., NEV., WALKER LAKE, HAWTHORNE, GABBS DRY LAKE, C-20
118°28.7W	38°35.7N	1/ 2/74	16°59'26	94-223	CALIF., NEV., WALKER LAKE, HAWTHORNE, EXCELSIOR MTS.
118°32.3W	41°14.5N	28/ 1/74	18°15'01	A4-011	NEV., ORE., WINNEMUCCA, HUMBOLDT R., PINE FOREST RANGE, S-40
118°15.8W	43°17.8N	29/ 1/74	17°31'30	76-337	ORE., IDAHO, SNAKE R., OUYHEE R., HARNEY LAKE, MALHEUR LAKE, C-20, S-30
118°50.4W	43°31.3N	29/ 1/74	17°31'22	94-075	ORE., HARNEY LAKE, MALHEUR LAKE, BURNS, S-30, C-20
118°08.9W	45°03.3N	30/ 1/74	16°47'59	A4-164	ORE., IDAHO, WASH., C-96
118°12.8W	46°34.6N	21/ 1/74	20°02'56	92-256	WASH., C-100
118°09.2W	49°24.5N	24/ 1/74	17°52'52	70-327	BRITISH COLUMBIA, WASH., IDAHO, C-100
117°52.4W	30°06.6N	14/ 1/74	16°57'20	70-097	PACIFIC O. OFF BAJA CALIF., C-90
117°21.8W	30°34.7N	14/ 1/74	16°57'30	70-098	PACIFIC O. OFF BAJA CALIF., C-92
117°59.7W	31°53.4N	2/12/73	18°19'50	* 52-214	BAJA CALIF., BAHIA DEL DESCANSO
117°28.3W	31°28.1N	2/12/73	18°20'00	* 52-215	BAJA CALIF., TODD SANTOS BAY, PLANTA RANCA
117°55.7W	31°45.2N	2/12/73	18°19'51	90-186	PACIFIC OCEAN OFF CALIFORNIA
117°36.6W	31°33.7N	2/12/73	18°19'57	90-187	PACIFIC OCEAN OFF MEXICO
117°16.8W	31°17.7N	2/12/73	18°20'04	90-188	PACIFIC OCEAN OFF MEXICO C-15
117°23.1W	34°57.8N	26/ 1/74	19°42'49	▲ 76-079	CALIF., PALMDALE, EDWARDS AFB, SAN ANDRES FAULT, BARSTOW, C-15
117°16.1W	34°54.0N	3/12/73	17°36'03	90-253	CALIFORNIA, VICTORVILLE C-60
117°06.9W	34°45.3N	26/ 1/74	19°42'54	92-349	CALIF., VICTORVILLE, BARSTOW, BIG PEAR LAKE, C-10
117°59.3W	35°25.2N	3/12/73	17°35'51	* 52-282	CALIF., TEHACHAPI MTS., C-90
117°24.4W	35°00.8N	3/12/73	17°36'01	* 52-283	CALIF., SAN BERNARDINO, SAN GABRIEL MTS., OLD BALDY, C-60
117°58.0W	35°22.1N	26/ 1/74	19°42'39	▲ 76-078	CALIF., SIERRA NEVADA, EDWARDS AFB, MOJAVE DESERT, SEARLES LAKE, C-15
117°45.8W	35°12.7N	26/ 1/74	19°42'43	92-347	CALIF., CHINA LAKE, EDWARDS AFB, RANDSBURG, MOJAVE, C-10
117°28.0W	35°00.3N	26/ 1/74	19°42'48	92-348	CALIF., BARSTOW, EDWARDS AFB, RANDSBURG, VICTORVILLE
117°08.9W	36°51.1N	27/ 1/74	18°59'14	94-013	CALIF., NEV., DEATH VALLEY, FURNACE CREEK, STOVE PIPE WELLS
117°57.0W	37°26.5N	27/ 1/74	18°59'00	76-221	CALIF., NEV., BISHOP OASIS, OWENS R., SIERRA NEVADA, S-15
117°22.7W	37°02.8N	27/ 1/74	18°59'10	76-222	CALIF., NEV., OWENS R., OWENS LAKE, INYO MTS., SALINE VALLEY, S-10
117°03.6W	37°52.7N	4/12/73	16°52'14	90-297	NEVADA, TONOPAH, GOLD FIELD, SILVERPEAK RANGE C-50
117°51.4W	37°23.7N	27/ 1/74	18°59'02	94-011	CALIF., NEV., OWENS R., INYO MTS., SALINE VALLEY, S-10
117°30.0W	37°07.4N	27/ 1/74	18°59'08	94-012	CALIF., NEV., DEATH VALLEY, PANAMINT RANGE, INYO MTS.
117°59.7W	38°23.7N	1/ 2/74	16°59'34	48-028	CALIF., NEV., MONO LAKE, WALKER LAKE, TOIYABE RANGE
117°50.4W	38°20.7N	4/12/73	16°52'01	90-295	NEVADA, SODAVILLE, COALDALE, EXCELSIOR MTS. C-50
117°27.0W	38°07.0N	4/12/73	16°52'07	90-296	NEVADA, TONOPAH, MUD LAKE, SILVERPEAK C-50
117°51.1W	40°54.5N	28/ 1/74	18°15'11	A4-012	NEV., WINNEMUCCA, HUMBOLDT R., SANTA ROSA RANGE, S-60, C-10
117°10.2W	40°33.7N	28/ 1/74	18°15'21	A4-013	NEV., HUMBOLDT R., WINNEMUCCA, BATTLE MOUNTAIN, S-70, C-30
117°32.3W	42°55.4N	29/ 1/74	17°31'40	76-338	ORE., IDAHO, SNAKE R., OUYHEE R., ALVORD DESERT, S-30, C-10
117°51.1W	43°06.6N	29/ 1/74	17°31'35	94-076	IDAHO, ORE., OUYHEE R., S-50, C-20
117°22.4W	44°47.0N	30/ 1/74	16°48'09	A4-165	IDAHO, ORE., WALLOWA MTS., C-90
117°51.4W	46°25.2N	21/ 1/74	20°03'00	64-357	WASH., ORE., IDA., SNAKE R., C-80, S-100
117°07.2W	46°15.6N	21/ 1/74	20°03'09	92-257	IDAHO, WASH., CLEARWATER R., C-75, S-30
117°13.8W	49°17.4N	24/ 1/74	17°53'02	70-328	BRITISH COLUMBIA, WASH., IDAHO, C-100

LONGITUDE DDDMM.M	LATITUDE DDMM.M	DATE DD/MM/YY	TIME HHMMSS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
116°37.6W	30°45.2N	2/12/73	18°20'16	90-190	BAJA, CALIFORNIA, CABO COLNETT, VENCENTE GUERREKO
116°18.5W	30°29.2N	2/12/73	18°20'22	90-191	BAJA, CALIFORNIA, CABO COLNETT, CABO SAN QUINTIN
116°00.0W	30°13.7N	2/12/73	18°20'28	90-192	BAJA, CALIFORNIA, PUNTA BAJA, ROSARIO
116°55.7W	30°55.1N	14/ 1/74	16°57'38	93-051	MEXICO (BAJA CALIF.), PUNTA COLNETT, C-90
116°56.4W	31°02.0N	2/12/73	18°20'10	* 52-216	BAJA CALIF., PUNTA BANDA, PUNTA SAN JOSE
116°50.4W	31°00.5N	14/ 1/74	16°57'40	70-099	MEXICO (BAJA CALIF.), ENSENADA, TODO SANTOS RAY, PUNTA COLNETT, C-70
116°19.5W	31°26.1N	14/ 1/74	16°57'50	70-100	MEXICO (BAJA CALIF.), ENSENADA, SIERRA SAN PEDRO MATIR, C-25
116°57.4W	31°01.7N	2/12/73	18°20'10	90-189	BAJA, CALIFORNIA, CABO COLNETT C-12
116°35.3W	31°12.1N	14/ 1/74	16°57'44	93-052	MEXICO (BAJA CALIF.), PUNTA COLMETT, PUERTO SANTO TOMA, C-50
116°16.2W	31°27.6N	14/ 1/74	16°57'50	93-053	MEXICO (BAJA CALIF.), PUNTA BANDA, PUERTO SANTO TOMA, C-10
116°03.3W	33°55.5N	26/ 1/74	19°43'13	92-352	CALIF., COACHELLA VALLEY, INDIO, SALTON SEA, CHUCKAWALLA MTS.
116°50.4W	34°36.7N	3/12/73	17°36'11	* 52-284	CALIF., SAN BERNADINO, BIG BEAR LAKE, SAN GORDON MTS., C-40
116°16.8W	34°12.4N	3/12/73	17°36'21	* 52-285	CALIF., COACHELLA VALLEY, PALM SPRINGS, SAN BERNADINO, C-15
116°49.1W	34°33.6N	26/ 1/74	19°43'00	▲ 76-080	CALIF., BARSTOW, MOJAVE R., MOJAVE DESERT, APPLE VALLEY, C-20
116°15.5W	34°09.2N	26/ 1/74	19°43'10	▲ 76-081	CALIF., BIG BEAR LAKE, MOJAVE DESERT, PALM SPRINGS, JOSHUA TREE
116°30.3W	34°21.3N	3/12/73	17°36'17	90-254	CALIFORNIA, PALM SPRINGS, YUCCA VALLEY, 29 PALMS C-15
116°45.8W	34°30.3N	26/ 1/74	19°43'00	92-350	CALIF., YUCCA VALLEY, LUCERNE VALLEY, JOSHUA TREE
116°24.4W	34°14.6N	26/ 1/74	19°43'07	92-351	CALIF., FISGAH CRATER, 29-PALMS, PALM SPRINGS, JOSHUA TREE, N.M.
116°05.6W	35°58.2N	27/ 1/74	18°59'33	94-016	CALIF., NEV., PAHRUMP, SPRING MTS., ARMAGOSA R., TEGOPA
116°48.8W	36°35.6N	27/ 1/74	18°59'20	76-223	CALIF., NEV., DEATH VALLEY, PANAMINT RANGE, INYO MTS.
116°15.2W	36°07.4N	27/ 1/74	18°59'30	76-224	CALIF., NEV., DEATH VALLEY, LAS VEGAS, SPRING MTS., ARMAGOSA RANGE
116°47.8W	36°33.5N	27/ 1/74	18°59'21	94-014	CALIF., NEV., DEATH VALLEY, BADWATER, PANAMINT RANGE, ARMAGOSA RANGE
116°26.7W	36°16.1N	27/ 1/74	18°59'27	94-015	CALIF., NEV., DEATH VALLEY, ARMAGOSA R., BADWATER, SHOSHONE
116°40.2W	37°38.4N	4/12/73	16°52'20	90-298	NEVADA, MUD LAKE, CACTUS RANGE C-3C
116°17.2W	37°24.0N	4/12/73	16°52'26	90-299	NEVADA, PAHUTE MESA, GOLD FLAT C-2C
116°30.0W	40°12.6N	28/ 1/74	19°15'31	A4-014	NEV., HUMBOLDT R., BATTLE MOUNTAIN, SHOSHONE MT., S-80, C-40
116°48.8W	42°40.6N	29/ 1/74	17°31'50	76-339	IDAHO, NEV., ORE., SNAKE R., OWYHEE R., JORDAN VALLEY, S-60
116°05.9W	42°21.5N	29/ 1/74	17°32'00	76-340	IDAHO, NEV., ORE., SNAKE R., OWYHEE R., BRUNEAU, S-70
116°53.1W	42°41.6N	29/ 1/74	17°31'49	94-077	IDAHO, ORE., OWYHEE R., S-85
116°36.3W	44°30.2N	30/ 1/74	16°48'19	A4-166	IDAHO, ORE., SALMON RIVER MTS., WALLOWA MTS, S-100, C-90
116°01.7W	45°55.7N	21/ 1/74	20°03'22	92-258	IDAHO, SELWAY R., GRANGEVILLE, C-85, S-8C
116°25.1W	46°05.9N	31/ 1/74	16°04'51	A4-316	ORE., IDAHO, WASH., C-100
116°13.2W	46°00.2N	21/ 1/74	20°03'20	64-358	MONT., IDA., BITTERROOT MTS., LOCHSA R., C-60, S-100
116°18.5W	49°05.8N	24/ 1/74	17°53'12	70-329	BRITISH COLUMBIA, IDAHO, MONT., C-100
115°40.6W	29°57.1N	2/12/73	18°20'35	90-193	BAJA, CALIFORNIA, PUNTA BAJA, PUNTA SAN CARLOS
115°55.1W	30°10.6N	2/12/73	18°20'30	* 52-217	BAJA CALIF., BAHIA SAN QUINTIN, CABO SAN QUINTIN, PUNTA BAJA
115°47.8W	31°51.5N	14/ 1/74	16°58'00	70-101	MEXICO (BAJA CALIF.), SONORA, CALIF., MEXICALI, COLORADO R., LAGUNA SAL
115°56.7W	31°43.4N	14/ 1/74	16°57'57	93-054	MEXICO (BAJA CALIF.) ENSENADA, SIERRA DE JUAREZ, EL ALAMO
115°37.9W	31°58.5N	14/ 1/74	16°58'03	93-055	MEXICO (BAJA CALIF.), SIERRA DE JUAREZ, LAGUNA SALADA
115°16.2W	32°16.5N	14/ 1/74	16°58'10	70-102	CALIF., ARIZ., MEXICO (BAJA CALIF.-SONORA), YUMA, MEXICALI, EL CENTRO
115°17.5W	32°14.5N	14/ 1/74	16°58'09	93-056	CALIF., ARIZ., MEXICO (BAJA CALIF., SONORA) SAN LUIS, MEXICALI, COL
115°43.2W	33°47.6N	3/12/73	17°36'31	* 52-286	CALIF., SALTON SEA, COACHELLA VALLEY, INDIO, JOSHUA TREE, N. M.
115°10.2W	33°23.2N	3/12/73	17°36'41	* 52-287	CALIF., ARIZ., BAJA CALIF., MEXICALI, IMPERIAL VALLEY, COLORADO R.
115°42.5W	33°45.3N	26/ 1/74	19°43'17	▲ 76-082	CALIF., SALTON SEA, COACHELLA VALLEY, IMPERIAL VALLEY, INDIO
115°06.3W	33°20.3N	26/ 1/74	19°43'29	▲ 76-083	CALIF., MEXICO (BAJA CALIF.) IMPERIAL VALLEY, MEXICALI, YUMA
115°44.9W	33°46.6N	3/12/73	17°36'30	90-255	CALIFORNIA, SALTON SEA, INDIO, 25 PALMS, JOSHUA TREE N.M.
115°01.0W	33°15.6N	3/12/73	17°36'44	90-256	CALIF.-ARIZ., COLORADO R., CALIPATRIA, ALL AMERICAN CANAL C-15
115°42.9W	33°44.5N	26/ 1/74	19°43'19	92-353	CALIF., SALTON SEA, COACHELLA CANAL, INDIO, CALIPATRIA
115°22.4W	33°29.2N	26/ 1/74	19°43'25	92-354	CALIF., ARIZ., COLORADO R., SALTON SEA, ALGODONES DUNES
115°01.7W	33°13.5N	26/ 1/74	19°43'32	92-355	CALIF., ARIZ., COLORADO R., MEXICO (BAJA), ALL-AMERICAN CANAL
115°42.2W	35°38.6N	27/ 1/74	18°59'40	76-225	CALIF., NEV., ARIZ., LAS VEGAS, SPRING MTS., NEW YORK MTS., SODA LAKE
115°09.3W	35°10.3N	27/ 1/74	18°59'50	76-226	CALIF., NEV., ARIZ., COLORADO R., LAKE MOJAVE, SODA LAKE, KINGMAN
115°43.5W	35°39.2N	27/ 1/74	18°59'40	94-017	CALIF., NEV., BAKER, MESQUITE LAKE, GOOD SPRINGS, SHADGW MTS.
115°22.8W	35°21.2N	27/ 1/74	18°59'46	94-018	CALIF., NEV., ARIZ., BAKER, CIMA, NEW YORK MTS., KELSO, COLORADO R.
115°02.0W	35°03.4N	27/ 1/74	18°59'53	94-019	CALIF., NEV., ARIZ., COLORADO R., LAKE MOJAVE, SEARCHLIGHT
115°50.1W	39°51.3N	28/ 1/74	18°15'41	A4-015	NEV., TOYIABE RANGE, DRY LAKE, S-8C, C-7C
115°10.6W	39°25.6N	28/ 1/74	18°15'51	A4-016	NEV., SCHELL CREEK RANGE, LONG VALLEY, S-80, C-50
115°23.8W	42°02.2N	29/ 1/74	17°32'10	76-341	IDAHO, NEV., SNAKE R., BRUNEAU R., CHICKEN CREEK, S-70, C-10
115°54.7W	42°15.5N	29/ 1/74	17°32'02	94-078	IDAHO, BRUNEAU R., C-80
115°05.6W	43°55.6N	30/ 1/74	16°48'39	A4-168	IDAHO, SALMON RIVER MTS., S-100, C-5C
115°50.8W	44°13.0N	30/ 1/74	16°48'29	A4-167	IDAHO, SALMON RIVER MTS., S-100, C-96
115°36.6W	45°54.7N	31/ 1/74	16°05'01	A4-317	ORE., WASH., IDAHO, C-100
115°23.8W	49°01.6N	24/ 1/74	17°53'22	70-330	IDAHO, MONT., C-100
114°35.0W	24°26.5N	11/ 1/74	17°29'40	64-234	PACIFIC O. OFF BAJA CALIF., C-5C
114°54.8W	29°18.7N	2/12/73	18°20'50	* 52-218	BAJA CALIF., SIERRA COLUMBIA, BAHIA BLANCA, C-15
114°37.6W	32°58.4N	3/12/73	17°36'51	* 52-288	CALIF., ARIZ., BAJA CALIF., SONORA, SAN LUIS, YUMA, COLORADO R.

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
114°05.3W	32°33.3N	3/12/73	17:37:01	* 52-289	ARIZ., BAJA CALIF., SONORA, SAN LUIS, GILA R., YUMA, C-10
114°43.9W	32°41.7N	14/ 1/74	16:58:20	70-103	CALIF., ARIZ., MEXICO (BAJA CALIF.-SONORA), YUMA, COLORADO R., GILA R.
114°36.6W	32°55.4N	26/ 1/74	19:43:39	▲ 76-084	CALIF., ARIZ., BAJA CALIF., SONORA, YUMA, COLORADO R., MEXICALI
114°04.3W	32°30.3N	26/ 1/74	19:43:49	▲ 76-085	ARIZ., CALIF., BAJA CALIF., SONORA, YUMA, COLORADO R., GILA R.
114°17.2W	32°41.6N	3/12/73	17:36:57	90-257	CAL.-ARIZ., BAJA, CAL., SONORA, YUMA, SAN LUIS, GILA R. C-15
114°41.2W	32°57.5N	26/ 1/74	19:43:38	92-356	CALIF., ARIZ., MEXICO (BAJA-SONORA), YUMA, SAN LUIS, COLORADO R.
114°20.8W	32°42.2N	26/ 1/74	19:43:44	92-357	CALIF., ARIZ., MEXICO (BAJA-SONORA), YUMA, GILA R., COLORADO R.
114°00.7W	32°26.6N	26/ 1/74	19:43:50	92-358	ARIZ., MEXICO (SONORA), GILA R., GRAND SONORAN DESERT
114°57.1W	32°30.3N	14/ 1/74	16:58:15	93-057	CALIF., ARIZ., MEXICO (BAJA CALIF., SONORA), MEXICALI, YUMA, COLO. R.
114°37.3W	32°45.7N	14/ 1/74	16:58:21	93-058	CALIF., ARIZ., MEXICO (BAJA CALIF., SONORA), YUMA, SAN LUIS, GILA R.
114°11.6W	33°06.8N	14/ 1/74	16:58:30	70-104	CALIF., ARIZ., MEXICO (SONORA), YUMA, GILA R., KOFA MTS., PAINTED ROCK
114°16.5W	33°01.8N	14/ 1/74	16:58:28	93-059	CALIF., ARIZ., COLORADO R., GILA R., KING VALLEY, MCHAWK
114°35.6W	34°45.2N	27/ 1/74	19:00:00	76-227	CALIF., NEV., ARIZ., COLORADO R., NEEDLES, GOLD ROAD, HAVASU LAKE
114°04.3W	34°19.3N	27/ 1/74	19:00:10	76-228	CALIF., ARIZ., COLORADO R., HAVASU LAKE, PARKER, BILL WILLIAMS R.
114°41.6W	34°48.2N	27/ 1/74	18:59:59	94-020	CALIF., NEV., ARIZ., COLORADO R., HAVASU LAKE, NEEDLES, OATMAN
114°20.8W	34°33.1N	27/ 1/74	19:00:05	94-021	CALIF., ARIZ., PARKER, COLORADO R., HAVASU LAKE, BILL WILLIAMS RES.
114°02.0W	34°16.3N	27/ 1/74	19:00:11	94-022	CALIF., ARIZ., HAVASU LAKE, PARKER, COLORADO R.
114°08.0W	35°57.7N	1/ 2/74	17:00:38	48-030	CALIF., NEV., ARIZ., LAKE MEAD, COLORADO R., KINGMAN, CHLORIDE
114°05.7W	35°55.2N	4/12/73	16:53:03	90-300	NEVADA-ARIZONA, LAKE MEAD, COLORADO RIVER
114°06.3W	35°55.7N	1/ 2/74	17:00:38	94-224	NEV., ARIZ., LAKE MEAD, GRAND CANYON, CHLORIDE
114°29.4W	36°12.2N	1/ 2/74	17:00:32	48-029	CALIF., NEV., ARIZ., LAKE MEAD, LAS VEGAS
114°31.7W	39°06.2N	28/ 1/74	18:16:01	A4-017	UTAH, NEV., SCHELL CREEK RANGE, ELY, WARD MT., S-80, C-40
114°41.9W	41°42.4N	29/ 1/74	17:32:20	76-342	UTAH, IDAHO, NEV., WELLS, JACKPOT, COPPER MT., C-10, S-70
114°01.4W	41°22.7N	25/ 1/74	17:32:13	76-343	UTAH, NEV., IDAHO, GREAT SALT DESERT, BONNEVILLE SALT FLATS, S-60
114°09.6W	41°26.1N	25/ 1/74	17:32:27	94-079	UT., NEV., IDAHO, LUCIN, GROUSE CREEK, S-80, C-30
114°21.1W	43°37.8N	30/ 1/74	16:48:49	A4-169	IDAHO, SALMON RIVER MTS., S-100, C-75
114°48.5W	45°35.2N	31/ 1/74	16:05:11	A4-318	ORE., WASH., IDAHO, C-100
114°01.0W	45°23.6N	31/ 1/74	16:05:21	A4-319	IDAHO, MONT., C-100
114°37.6W	45°25.5N	21/ 1/74	20:03:40	94-359	IDA., MONT., BITTERROOT MTS., SALMON RIVER MTS., C-60, S-90
114°56.4W	45°34.5N	21/ 1/74	20:03:36	92-259	IDAHO, MONT., SALMON R., BITTERROOT MTS., C-80, S-80
114°29.1W	48°53.2N	24/ 1/74	17:53:32	70-331	MONT., C-100
113°39.9W	25°21.1N	11/ 1/74	17:30:00	64-235	PACIFIC C. OFF BAJA CALIF., C-10
113°55.4W	28°26.2N	2/12/73	18:21:10	* 52-219	BAJA CALIF., LAGUNA UJO DE LIBRE, SEA OF CORTEZ
113°01.1W	31°42.6N	3/12/73	17:37:21	* 52-291	ARIZ., SONORA, GILA R., PINACATE MTS., PUERTO PENASCO, C-10
113°00.4W	31°39.6N	26/ 1/74	19:44:09	▲ 76-087	ARIZ., SONORA, AJO, CERRO PINACATE, BAHIA SAN JORGE
113°20.8W	31°54.5N	26/ 1/74	19:44:03	92-360	ARIZ., MEXICO (SONORA), PINACATE VOLCANIC FIELD
113°01.1W	31°35.3N	26/ 1/74	19:44:09	92-361	ARIZ., MEXICO (SONORA), BAHIA DE SAN JORGE, SONOYTA
113°32.7W	32°07.8N	3/12/73	17:37:11	* 52-290	ARIZ., SONORA, GILA R., YUMA, PINACATE MTS., C-15
113°32.4W	32°05.2N	26/ 1/74	19:43:59	▲ 76-086	ARIZ., SONORA, GILA R., CERRO PINACATE, BAHIA DE ADUAR, AJO
113°34.0W	32°07.6N	3/12/73	17:37:11	90-258	ARIZONA, SONORA, LECHUQUILLA DESERT, PINACATE MTS. C-15
113°40.9W	32°10.5N	26/ 1/74	19:43:57	92-359	ARIZ., MEXICO (SONORA), PINACATE MTS., GRAND SONORAN DESERT
113°39.0W	33°31.5N	14/ 1/74	16:58:40	70-105	ARIZ., CALIF., GILA R., KOFA MTS., CONTINENTAL WASH., EAGLE TAIL MTS.
113°05.7W	33°56.2N	14/ 1/74	16:58:50	70-106	ARIZ., SUN CITY, WICKENBURG, LAKE PLEASANT, VULTURE MTS.
113°37.0W	33°45.4N	27/ 1/74	19:00:20	76-229	CALIF., ARIZ., BLYTHE, PARKER, WICKENBURG, GILA R., COLORADO R.
113°10.6W	33°19.2N	27/ 1/74	19:00:30	76-230	ARIZ., PHOENIX, GILA BEND, GILA R., DATLAND
113°55.4W	33°18.2N	14/ 1/74	16:58:34	93-060	ARIZ., SALOME, PALOMAS PLAIN, EAGLE TAIL MTS., KOFA MTS.
113°35.3W	33°33.2N	14/ 1/74	16:58:40	93-061	ARIZ., HARQUAHALA MTS., CENTENIAL WASH., TONOPAH
113°14.9W	33°46.3N	14/ 1/74	16:58:47	93-062	ARIZ., WICKENBURG, MORRISTOWN, VULTURE MTS., AGUILA
113°45.2W	33°57.7N	27/ 1/74	19:00:17	94-023	CALIF., ARIZ., COLORADO R., PARKER, HOPE, BILL WILLIAMS R.
113°28.7W	33°38.5N	27/ 1/74	19:00:24	94-024	ARIZ., ROUSE WASH., GILA R., EAGLE TAIL MTS.
113°12.6W	33°20.2N	27/ 1/74	19:00:30	94-025	ARIZ., GILA R., SENTINEL, WINTERBURG, BUCKEYE
113°46.9W	35°43.5N	1/ 2/74	17:00:44	48-031	CALIF., NEV., ARIZ., LAKE MEAD, KINGMAN, HUALAPAI MTS.
113°26.1W	35°29.3N	1/ 2/74	17:00:50	48-032	ARIZ., CALIF., COLORADO R., KINGMAN, BAGDAD, BIG SANDY R.
113°05.7W	35°15.1N	1/ 2/74	17:00:56	48-033	ARIZ., GRAND CANYON, KINGMAN, BAGDAD, ACQUARIUS CLIFFS
113°43.6W	35°44.1N	4/12/73	16:53:09	90-301	ARIZONA, LAKE MEAD, COLORADO R., GRAND CANYON, LOWER GRANITE GORGE
113°21.8W	35°25.3N	4/12/73	16:53:15	90-302	ARIZONA, COLORADO R., LOWER GRANITE GORGE, GRAND WASH CLIFFS
113°44.6W	35°46.5N	1/ 2/74	17:00:45	94-225	NEV., ARIZ., LAKE MEAD, GRAND CANYON, KINGMAN, CHLORIDE
113°22.8W	35°26.2N	1/ 2/74	17:00:51	94-226	ARIZ., GRAND CANYON, KINGMAN, PEACH SPRINGS, JUNIPER MTS.
113°01.1W	35°11.2N	1/ 2/74	17:00:57	94-227	ARIZ., ASHFORK, JUNIPER MTS., CAMP WOOD, SKULL VALLEY
113°52.8W	38°45.6N	28/ 1/74	18:16:11	A4-018	UTAH, NEV., SEVIER LAKE, SNAKE RANGE, FORTIFICATION RANGE, S-100
113°14.2W	38°21.4N	28/ 1/74	18:16:21	A4-019	UTAH, SEVIER LAKE, CEDAR CITY, BEAVER, S-100, C-40
113°20.8W	41°03.2N	29/ 1/74	17:32:39	76-344	UTAH, NEV., GREAT SALT LAKE, OGDEN, WENDOVER, BONNEVILLE SALT FLATS,
113°44.9W	41°14.1N	29/ 1/74	17:32:33	94-080	UTAH, NEV., GREAT SALT LAKE DESERT, LUCIN, RAFT RIVER MTS., S-60
113°19.2W	41°01.2N	29/ 1/74	17:32:40	94-081	UTAH, GREAT SALT LAKE, GREAT SALT LAKE DESERT, BONNEVILLE FLATS, S-55
113°37.0W	43°15.6N	30/ 1/74	16:48:59	A4-170	IDAHO, SNAKE R., PIONEER MTS., LOST RIVER RANGE, S-100, C-70
113°03.4W	44°57.5N	21/ 1/74	20:04:00	64-360	MONT., IDA., BITTERROOT MTS., SALMON, DILLON, C-30, S-70
113°13.9W	45°07.3N	31/ 1/74	16:05:31	A4-320	IDAHO, MONT., C-100
113°20.8W	45°02.6N	21/ 1/74	20:03:56	92-260	MONT., IDAHO, DILLON, BEAVERHEAD MTS., LEMHI, C-10, S-80
113°21.5W	46°32.6N	22/ 1/74	19:20:30	70-238	MONT., C-100
113°27.7W	46°33.6N	22/ 1/74	19:20:28	93-117	MONTANA AT MISSOULA, C-100
113°34.7W	48°44.2N	24/ 1/74	17:53:42	70-332	MONT., C-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
112°50.5W	21°18.3N	12/ 1/74	16°46'00	64-260	PACIFIC O. OFF MEXICO, C-60
112°24.2W	21°46.5N	12/ 1/74	16°46'10	64-261	PACIFIC O. OFF MEXICO, C-40
112°43.9W	26°15.4N	11/ 1/74	17°30'20	64-236	MEXICO (BAJA CALIF.), BAHIA CONCEPCION, BOCA DE LA SOLIDAD
112°57.1W	27°32.7N	2/12/73	18°21'30	* 52-220	BAJA CALIF., DESERTO DE VIZCAINO, SEA OF CORTEZ
112°09.0W	30°59.1N	3/12/73	17°37'38	90-260	SONORA, RIO MAGDALENA, CABORCA
112°02.4W	30°51.1N	26/ 1/74	19°44'28	92-364	MEXICO (SONORA) CABORCA., MAGDALENA R., ALTAR
112°32.7W	31°16.5N	3/12/73	17°37'30	* 52-292	ARIZ., SONORA, SONOYTA, PINACATE MTS., PLERTO PENASCO
112°29.1W	31°14.0N	26/ 1/74	19°44'19	▲ 76-088	ARIZ., SONORA, CABORCA, BAHIA SAN JORGE, ALTAR
112°51.2W	31°33.3N	3/12/73	17°37'24	90-259	SONORA, BAHIA DE SAN JORGE, RIO SONOYTA
112°41.3W	31°23.1N	26/ 1/74	19°44'15	92-362	MEXICO (SONORA) BAHIA DE SAN JORGE
112°22.2W	31°07.5N	26/ 1/74	19°44'22	92-363	MEXICO (SONORA) CABORCA., MAGDALENA R., ALTAR
112°45.2W	32°48.1N	27/ 1/74	19°00'40	76-231	ARIZ., SONORA, AJO, GILA BEND, CASA GRANDE, ORGAN PIPE CACTUS, N. M.
112°19.9W	32°17.0N	27/ 1/74	19°00'50	76-232	ARIZ., SONORA, CERRO PINACATE, AJO, COMOBARI MTS., SANTA CRUZ R.
112°40.0W	32°40.5N	27/ 1/74	19°00'42	94-027	ARIZ., GILA R., GILA BEND, AJO, KAKA
112°24.1W	32°21.3N	27/ 1/74	19°00'49	94-028	ARIZ., AJO, AJO MTS., SAND TANK MTS.
112°09.0W	32°01.6N	27/ 1/74	19°00'55	94-029	ARIZ., SONORA, KOM VO., SELLS
112°56.1W	33°00.3N	27/ 1/74	19°00'36	94-026	ARIZ., GILA R., GILA BEND, BUCKEYE, SENTINEL, AJL
112°24.1W	34°46.0N	1/ 2/74	17°01'08	48-035	ARIZ., OAK CREEK CANYON, PRESCOTT, VERDE R., JEROME, SEDONA
112°04.0W	34°31.6N	1/ 2/74	17°01'14	48-036	ARIZ., VERDE R., PHOENIX, MOGOLLON RIM, PRESCOTT
112°32.4W	34°20.4N	14/ 1/74	16°59'00	70-107	ARIZ., SUN CITY, PRESCOTT, VERDE R., SEDONA, OAK CREEK CANYON, S-25
112°38.0W	34°58.8N	4/12/73	16°53'28	90-304	ARIZONA, PRESCOTT, SELIGMAN, ASH FORK
112°16.2W	34°43.3N	4/12/73	16°53'34	90-305	ARIZONA, PRESCOTT, CLARKDALE, JEROME, COTTONWOOD
112°53.8W	34°03.8N	14/ 1/74	16°58'53	93-063	ARIZ., WICKENBURG, VULTURE MTS., HEIROGLYPHIC MTS., S-10
112°33.4W	34°18.6N	14/ 1/74	16°58'59	93-064	ARIZ., PRESCOTT, LAKE PLEASANT, AGUA FRIA R., S-15
112°12.6W	34°33.8N	14/ 1/74	16°59'05	93-065	ARIZ., PRESCOTT, VERDE R., JEROME, AGUA FRIA R., S-20
112°39.3W	34°55.5N	1/ 2/74	17°01'03	94-228	ARIZ., PRESCOTT, ASHFORK, JEROME, CAMP WOOD
112°17.9W	34°40.7N	1/ 2/74	17°01'10	94-229	ARIZ., PRESCOTT, CLARKDALE, VERDE R., SEDONA
112°44.6W	35°00.3N	1/ 2/74	17°01'02	48-034	ARIZ., SELIGMAN, PRESCOTT, WILLIAMS, WEAVER MTS.
112°59.7W	35°14.0N	4/12/73	16°53'22	90-303	ARIZONA, SELIGMAN, ASH FORK, AQUARIUS MT.
112°38.0W	37°54.3N	28/ 1/74	18°16'31	A4-020	UTAH, CEDAR CITY, BRYCE CANYON, ZION CANYON, S-100, C-60
112°02.4W	37°28.0N	28/ 1/74	18°16'41	A4-021	UTAH, ARIZ., LAKE POWELL, PAGE, KAIBAB PLATEAU, COLORADO R., S-80
112°40.0W	40°42.3N	25/ 1/74	17°32'49	76-345	UTAH, GREAT SALT LAKE, SALT LAKE CITY, TOOELE, OGDEN, S-60
112°53.5W	40°48.4N	29/ 1/74	17°32'46	94-082	UTAH, GREAT SALT LAKE, TOOELE, DESERT PEAK, SKULL VALLEY, S-35
112°27.8W	40°35.2N	29/ 1/74	17°32'52	94-083	UTAH, SALT LAKE CITY, GREAT SALT LAKE, TOOELE, S-20
112°03.4W	40°22.5N	29/ 1/74	17°32'58	94-084	UTAH, GREAT SALT LAKE, UTAH LAKE, SALT LAKE CITY, PROVO, S-100
112°09.3W	42°42.4N	30/ 1/74	16°49'19	A4-172	WYO., UTAH, IDAHO, SNAKE R., S-100, C-80
112°33.4W	42°52.0N	30/ 1/74	16°49'13	94-147	IDAHO, WYO., SNAKE R.
112°53.1W	43°01.4N	30/ 1/74	16°49'09	A4-171	UTAH, IDAHO, SNAKE R., S-100, C-80
112°27.4W	44°50.6N	31/ 1/74	16°05'41	A4-321	IDAHO, MONT., C-100
112°18.5W	44°40.6N	21/ 1/74	20°04'10	92-261	MONT., IDAHO, BEAVERHEAD MTS., RED ROCK R., RUBY RANGE, S-80
112°32.1W	46°18.3N	22/ 1/74	19°20'40	70-239	MONT., C-98
112°56.1W	46°24.5N	22/ 1/74	19°20'35	93-118	MONT., C-95, S-90
112°24.8W	46°15.3N	22/ 1/74	19°20'41	93-119	MONT., BUTTE, C-90, S-80
112°40.9W	48°34.6N	24/ 1/74	17°53'52	70-333	MONT., C-100
111°58.0W	22°14.4N	12/ 1/74	16°46'20	64-262	PACIFIC O. OFF MEXICO, C-25
111°31.7W	22°42.4N	12/ 1/74	16°46'30	64-263	PACIFIC O. OFF MEXICO, C-30
111°05.4W	23°10.0N	12/ 1/74	16°46'40	64-264	MEXICO (BAJA CALIF.), TODOS SANTOS, C-60
111°03.4W	25°44.6N	2/12/73	18°22'10	* 52-222	BAJA CALIF., CARMAN I., SIERRA LA GIGANTA, SAN DIEGO I.
111°59.8W	26°38.8N	2/12/73	18°21'50	* 52-221	BAJA CALIF., PUNTA CONCEPCION, SANTA ROSALIA
111°47.2W	27°09.3N	11/ 1/74	17°30'40	64-237	MEXICO (BAJA CALIF.), BAHIA CONCEPCION, ISLA CARMAN, SANTA ROSALIA
111°10.6W	27°42.1N	11/ 1/74	17°30'52	92-013	MEXICO (SONORA), GUAYMAS
111°58.8W	30°51.5N	3/12/73	17°37'41	* 52-293	ARIZ., SONORA, RIO MAGDALENA, CERRO COZON, CABORCA
111°27.8W	30°25.8N	3/12/73	17°37'51	* 52-294	SONORA, RIO MAGDALENA, SANTA ANA, CABORCA
111°57.8W	30°48.5N	26/ 1/74	19°44'29	▲ 76-089	MEXICO (SONORA), SANTA ANNA, CABORCA, ALTAR, MAGDALENA, RIO MAGDALENA
111°27.1W	30°22.6N	26/ 1/74	19°44'39	▲ 76-090	MEXICO (SONORA), SANTA ANNA, MAGDALENA, TINCHERAS, RIO MAGDALENA
111°08.3W	30°42.2N	27/ 1/74	19°01'20	76-235	ARIZ., SONORA, NOGALES, PATAGONIA, RIO ALISOS
111°27.8W	30°24.4N	3/12/73	17°37'51	90-261	SONORA, TINCHERAS, ALTAR, RIO MAGDALENA
111°42.9W	30°35.0N	26/ 1/74	19°44'34	92-365	MEXICO (SONORA) CABORCA., MAGDALENA R., SANTA ANA
111°08.7W	30°41.6N	27/ 1/74	19°01'20	94-033	ARIZ., SONORA, NOGALES, SASABE, MAGDALENA R.
111°55.5W	31°45.5N	27/ 1/74	19°01'00	76-233	ARIZ., SONORA, TUCSON, PIMA PITS, KITT PEAK, CERRO COZON
111°31.4W	31°14.2N	27/ 1/74	19°01'10	76-234	ARIZ., SONORA, PIMA PITS, NOGALES, GREEN VALLEY, ALTAR R.
111°53.8W	31°42.7N	27/ 1/74	19°01'01	94-030	ARIZ., SONORA, SELLS, SERRITA MTS.
111°39.0W	31°22.8N	27/ 1/74	19°01'07	94-031	ARIZ., SONORA, NOGALES, SANTA CRUZ R., SERRITA MTS.
111°24.2W	31°02.7N	27/ 1/74	19°01'14	94-032	ARIZ., SONORA, NOGALES, SANTA CRUZ R., SASABE
111°03.4W	33°47.5N	1/ 2/74	17°01'32	48-039	ARIZ., PHOENIX, MESA, SUPERSTITION MTS., SALT R., GLORE, TONTO BASIN
111°13.0W	33°57.5N	4/12/73	16°53'53	90-308	ARIZONA, PAYSON, T. ROOSEVELT LAKE, TONTO BASIN
111°15.3W	33°55.4N	1/ 2/74	17°01'28	94-232	ARIZ., ROOSEVELT RES., SALT R., PAYSON, TONTO BASIN
111°43.9W	34°17.1N	1/ 2/74	17°01'20	48-037	ARIZ., PHOENIX, VERDE R., SALT R., MAZATAL WILDERNESS
111°23.5W	34°02.1N	1/ 2/74	17°01'26	48-038	ARIZ., PHOENIX, TEMPE, SALT R., ROOSEVELT RES., MOGOLLON RIM

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
111°58.4W	34°44.7N	14/ 1/74	16°59'10	70-108	ARIZ., METEOR CRATER, FLAGSTAFF, SAN FRANCISCO PEAKS, MCGOLLEN RIM, S-40
111°55.1W	34°28.3N	4/12/73	16°53'41	90-306	ARIZONA, PRESCOTT, JEROME, CAMP VERDE, VERDE R.
111°34.0W	34°13.2N	4/12/73	16°53'47	90-307	ARIZONA, VERDE R., BARTLETT RES., MAZATZAL WILDERNESS
111°51.5W	34°48.8N	14/ 1/74	16°59'11	93-066	ARIZ., FLAGSTAFF, JEROME, SEDONA, OAK CREEK CANYON, S-50
111°57.4W	34°25.5N	1/ 2/74	17°01'16	94-230	ARIZ., PRESCOTT, CAMP VERDE, VERDE R., CORDES
111°36.0W	34°10.5N	1/ 2/74	17°01'22	94-231	ARIZ., PAYSON, MCGOLLEN RIM, CAMP VERDE, HAPPY JACK
111°24.5W	35°08.7N	14/ 1/74	16°59'20	70-109	ARIZ., METEOR CRATER, FLAGSTAFF, WINSLOW, LITTLE COLORADO R., S-50
111°30.4W	35°03.6N	14/ 1/74	16°59'18	93-067	ARIZ., FLAGSTAFF, METEOR CRATER, LITTLE COLORADO R., S-50
111°08.7W	35°18.8N	14/ 1/74	16°59'24	93-068	ARIZ., METEOR CRATER, SUNSET CRATER, PAINTED DESERT, WINSLOW, S-20
111°26.1W	37°01.5N	28/ 1/74	18°16'51	A4-022	UTAH, ARIZ., LAKE POWELL, COLORADO R., PAGE, MARBLE CANYON, S-70
111°13.6W	39°56.1N	29/ 1/74	17°33'11	94-086	UTAH, PRICED, WASATCH MTS., PRICE, HELPER, STRAWBERRY RES., S-100
111°59.8W	40°21.5N	29/ 1/74	17°32'59	76-346	UTAH, GREAT SALT LAKE, SALT LAKE CITY, LAKE UTAH, PROVID, OGDEN, S-90
111°20.2W	40°00.4N	29/ 1/74	17°33'09	76-347	UTAH, LAKE UTAH, PROVID, WASATCH MTS., JORDAN R., S-100
111°37.7W	40°05.6N	29/ 1/74	17°33'05	94-085	UTAH, UTAH LAKE, PROVID, WASATCH MTS., S-100
111°26.8W	42°23.3N	30/ 1/74	16°49'29	A4-173	WYU., UTAH, IDAHO, BEAR LAKE, S-100, C-60
111°35.7W	42°26.4N	30/ 1/74	16°49'27	94-148	WYU., IDAHO, SODA SPRINGS, C-70, S-100
111°41.0W	44°33.6N	31/ 1/74	16°05'51	A4-322	IDAHO, MONT., C-100
111°31.1W	44°23.5N	21/ 1/74	20°04'20	64-361	WYU., MONT., IDA., YELLOWSTONE LAKE, GRAND TETON MTS., SNAKE R., S-100
111°44.3W	44°28.2N	21/ 1/74	20°04'17	92-262	MONT., IDAHO, HEBGEN LAKE, BEAVERHEAD MTS., RED ROCK R., S-100
111°15.9W	44°17.5N	21/ 1/74	20°04'23	92-263	WYU., IDAHO, MONT., YELLOWSTONE NAT. PARK, ASHTON, HEBGEN LAKE, S-100
111°24.2W	45°57.6N	22/ 1/74	19°20'54	93-121	MONT., MISSOURI R., BUTTE, C-50, S-80
111°43.3W	46°03.6N	22/ 1/74	19°20'50	70-240	MONT., C-90
111°54.5W	46°08.2N	22/ 1/74	19°20'47	93-120	MONT., MISSOURI R., BUTTE, C-50, S-80
111°47.2W	48°24.7N	24/ 1/74	17°54'02	70-334	MONT., C-100
110°38.3W	23°37.7N	12/ 1/74	16°46'50	64-265	MEXICO (BAJA CALIF.), TODOS SANTOS, C-80
110°07.7W	24°50.1N	2/12/73	18°22'30	* 52-223	BAJA CALIF., LAPAZ, BAHIA LA PAZ, SAN JOSE I., ESPIKITE SANTO I.
110°11.6W	24°05.2N	12/ 1/74	16°47'00	64-266	GULF OF CALIF., C-90
110°49.2W	28°02.5N	11/ 1/74	17°31'00	64-238	MEXICO (SONORA), GUYMAS, CIUDAD OBRERON, ESTERO LE LOBUS
110°26.8W	28°22.2N	11/ 1/74	17°31'07	92-014	MEXICO (SONORA), RIO MATAPON
110°57.5W	29°59.7N	3/12/73	17°38'01	* 52-295	SONORA, HERMOSILLO, RIO DE SONORA, LRES
110°26.8W	29°33.4N	3/12/73	17°38'11	* 52-296	SONORA, HERMOSILLO, RIO DE SONORA, RIO SANJON
110°56.5W	29°56.6N	26/ 1/74	19°44'49	▲ 76-091	MEXICO (SONORA), HERMOSILLO, SANTA ANNA, RIO SONORA
110°26.2W	29°30.4N	26/ 1/74	19°44'59	▲ 76-092	MEXICO (SONORA), HERMOSILLO, RIO SONORA, RIO SANJON, C-20
110°23.8W	29°37.2N	27/ 1/74	19°01'40	76-237	SONORA, NOVILLO RES., HERMOSILLO, RIO NONORA
110°02.0W	29°04.7N	27/ 1/74	19°01'50	76-238	SONORA, GUYMAS, OBREGON RES., NOVILLO RES., HERMOSILLO
110°46.6W	29°45.2N	3/12/73	17°38'04	90-262	SONORA, BENJAMIN HILL, RIO SANJON
110°06.0W	29°14.2N	3/12/73	17°38'18	90-263	SONORA, NOVILLO RES., RIO YAQUI, BATUC
110°35.4W	29°53.3N	27/ 1/74	19°01'35	94-034	SONORA, AQUACALIENTES R., ARIZPE
110°22.2W	29°33.4N	27/ 1/74	19°01'41	94-035	SONORA, RIO SONORA, MOCTEZUMA, RIO MOCTEZUMA
110°08.4W	29°13.7N	27/ 1/74	19°01'47	94-036	SONORA, NOVILLO RES., RIO MOCTEZUMA, TONCHI
110°45.6W	30°09.5N	27/ 1/74	19°01'30	76-236	ARIZ., SONORA, RIO ALISOS, CANANEA, MAGDALENA
110°43.6W	33°32.6N	1/ 2/74	17°01'38	48-040	ARIZ., MESA, GLOBE, ROOSEVELT RES., SAN CARLOS RES., HAYDEN
110°24.2W	33°18.1N	1/ 2/74	17°01'44	48-041	ARIZ., SAN CARLOS RES., MIAMI, SAN PEDRO R., SAN MANUEL, SAFFORD
110°04.1W	33°03.6N	1/ 2/74	17°01'50	48-042	ARIZ., N. M., GILA R., MORENCI, WILLCOX LAKE, KLONDYKE, SAN PEDRO R.
110°52.8W	33°42.7N	4/12/73	16°53'59	90-309	ARIZONA, GLOBE, MIAMI, TONTO BASIN, LAKE T. ROOSEVELT
110°31.4W	33°26.5N	4/12/73	16°54'06	90-310	ARIZONA, GLOBE, MIAMI, SAN CARLOS RES., FORT APACHE
110°11.0W	33°11.5N	4/12/73	16°54'12	90-311	ARIZONA, SAN CARLOS RES., GILA R., SALT RIVER, BYLAS
110°54.8W	33°40.2N	1/ 2/74	17°01'34	94-233	ARIZ., GLOBE, MIAMI, SUPERSTITION MTS., SALT R., TONTO BASIN
110°34.1W	33°24.6N	1/ 2/74	17°01'41	94-234	ARIZ., SAN CARLOS RES., SALT R., GILA R., GLOBE, PINAL MTS.
110°13.0W	33°08.7N	1/ 2/74	17°01'47	94-235	ARIZ., SAN CARLOS RES., GILA R., KLONDYKE, HAYDEN
110°49.9W	35°32.6N	14/ 1/74	16°59'30	70-110	ARIZ., METEOR CRATER, LITTLE COLORADO R., WINSLOW, HOPI AREA, S-60
110°14.6W	35°56.7N	14/ 1/74	16°59'40	70-111	ARIZ., BLACK MESA, KEAMS CANYON, SASTANNA MTS., S-80
110°46.6W	35°33.5N	14/ 1/74	16°59'30	93-069	ARIZ., PAINTED DESERT, DRAIBI WASH, GARCES MESA, LITTLE COLORADO R.,
110°24.8W	35°48.6N	14/ 1/74	16°59'36	93-070	ARIZ., KEAMS CANYON, HOPI RESERVATION, SMOKE SIGNAL, S-70
110°49.9W	36°37.7N	28/ 1/74	18°17'01	A4-023	UTAH, ARIZ., LAKE POWELL, COLORADO R., BLACK MESA, TUBA CITY, S-75
110°14.0W	36°13.6N	28/ 1/74	18°17'11	A4-024	ARIZ., BLACK MESA, KEAMS CANYON, ORAIRI, S-60, C-40
110°03.4W	36°03.1N	14/ 1/74	16°59'43	93-071	ARIZ., CANYON DE CHELLY, BLACK MESA, PINON, CHINLE, MANY FARMS S-100
110°41.0W	39°39.1N	29/ 1/74	17°33'19	76-348	UTAH, WASATCH MTS., GREEN R., UTAH BASIN, S-100, C-30
110°02.1W	39°17.7N	29/ 1/74	17°33'29	76-349	UTAH, GREEN R., MOAB, DEAD HORSE POINT, CANYONLANDS N. P., S-100
110°48.6W	39°42.4N	29/ 1/74	17°33'17	94-087	UTAH, HELPER, WASATCH MTS., SCOFIELD RES., S-100, C-20
110°24.8W	39°25.4N	29/ 1/74	17°33'23	94-088	UTAH, HELPER, ROAN PLATEAU, CEDAR MTS., S-100, S-35
110°00.8W	39°16.1N	29/ 1/74	17°33'30	94-089	UTAH, GREEN R., DESOLATION CANYON, S-100, C-45
110°02.4W	41°44.4N	30/ 1/74	16°49'49	A4-175	WYU., UTAH, UTAH MTS., ROCK SPRINGS, FT. BRIDGER, S-100, C-40
110°44.3W	42°04.6N	30/ 1/74	16°49'39	A4-174	WYU., UTAH, IDAHO, GREEN R., BEAR LAKE, FONTENELLE LAKE, S-100, C-60
110°38.3W	42°00.4N	30/ 1/74	16°49'40	94-149	WYU., GREEN R., FONTENELLE RES.
110°10.0W	43°58.5N	31/ 1/74	16°06'11	A4-324	WYU., IDAHO, MONT., C-100
110°00.1W	43°45.6N	21/ 1/74	20°04'40	64-363	WYU., IDA., YELLOWSTONE LAKE, ABSAROKA, GRAND TETON, WIND RIVER MTS.
110°18.9W	43°55.6N	21/ 1/74	20°04'36	92-265	WYU., IDAHO, YELLOWSTONE PARK + LAKE, ABSAROKA MTS, GRAND TETON, S-100
110°55.5W	44°16.5N	31/ 1/74	16°06'01	A4-323	WYU., IDAHO, MONT., C-100
110°45.6W	44°06.6N	21/ 1/74	20°04'30	64-362	WYU., MONT., IDA., YELLOWSTONE N. P., GRAND TETON N. P. SNAKE R., S-100
110°47.6W	44°06.8N	21/ 1/74	20°04'29	92-264	WYU., IDAHO, MONT., YELLOWSTONE PARK + LAKE, GRAND TETON MTS, JACKSON

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
110°54.8W	45°48.6N	22/ 1/74	19°21'00	70-241	MONT., C-80
110°06.7W	45°33.1N	22/ 1/74	19°21'10	70-242	MONT., ABSAROKA MTS., C-80
110°54.2W	45°47.6N	22/ 1/74	19°21'00	93-122	MONT., YELLOWSTONE R., C-90, S-6C
110°24.5W	45°38.2N	22/ 1/74	19°21'06	93-123	MONT., YELLOWSTONE R., ABSAROKA MTS., BIG TIMBER, C-70, S-70
110°08.0W	46°56.7N	1E/ 1/74	20°37'11	92-153	MONTANA, OLD BALDY, C-95
110°54.8W	48°15.5N	24/ 1/74	17°54'12	70-335	MONT., C-100
110°02.8W	48°03.4N	24/ 1/74	17°54'22	70-336	MONT., C-98
109°13.3W	23°55.5N	2/12/73	18°22'50	* 52-224	BAJA CALIF., PUNTA ARENA, PUNTA ARENA DE LA VENTANA
109°44.0W	24°32.5N	12/ 1/74	16°47'10	64-267	MEXICO (SINALOA), GULF OF CALIF., C-80
109°39.0W	24°36.7N	12/ 1/74	16°47'11	92-092	SEA OF CORTEZ, C-92
109°21.6W	24°54.2N	12/ 1/74	16°47'17	92-093	SEA OF CORTEZ, C-90
109°16.9W	25°00.3N	12/ 1/74	16°47'20	64-268	MEXICO (SINALOA), GULF OF CALIF., C-80
109°04.4W	25°11.5N	12/ 1/74	16°47'24	92-094	MEXICO (SINALOA), PUNTA PERIHUETE, RIO SINALOA, C-85
109°27.2W	28°41.1N	3/12/73	17°38'31	* 52-298	SONORA, RIO YAQUI, PRESA MOCUZARI, SIERRA MADRE OCCIDENTAL
109°50.6W	28°55.6N	11/ 1/74	17°31'20	64-239	MEXICO (SONORA), NOVILLO RES., SIERRA MADRE OCCIDENTAL
109°25.5W	28°36.5N	3/12/73	17°38'31	90-264	SONORA, NOVILLO DAM, RIO YAQUI
109°56.8W	29°07.2N	3/12/73	17°38'21	* 52-297	SONORA, HERMOSILLO, RIO DE SONORA, RIO YAQUI
109°20.5W	29°21.6N	11/ 1/74	17°31'30	64-240	MEXICO (SONORA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, NOVILLO RES.
109°56.2W	29°04.2N	26/ 1/74	19°45'09	▲ 76-093	MEXICO (SONORA), NOVILLO RES., HERMOSILLO, RIO YAQUI, C-30
109°27.2W	29°15.1N	11/ 1/74	17°31'27	92-015	MEXICO (SONORA), NOVILLO RES., RIO YAQUI
109°08.4W	29°31.5N	11/ 1/74	17°31'33	92-016	MEXICO (SONORA), RIO YAQUI, SIERRA MADRE OCCIDENTAL
109°44.6W	32°46.1N	1/ 2/74	17°01'56	48-043	ARIZ., N.M., WILLCOX LAKE, SAFFORD, GILA R., CLIFTON, GILA MTS.
109°20.5W	32°33.1N	1/ 2/74	17°02'02	48-044	ARIZ., N.M., WILLCOX LAKE, SAFFORD, GILA R., CHIRICAHUA MTS.
109°06.4W	32°18.2N	1/ 2/74	17°02'08	48-045	ARIZ., N.M., LORDSBURG, PLAYAS VALLEY, CHIRICAHUA MTS., ALKALI FLATS
109°50.2W	32°55.6N	4/12/73	16°54'18	90-312	ARIZONA, SAFFORD, GILA R., MORENCI, CLIFTON, SALT R.
109°29.8W	32°35.7N	4/12/73	16°54'25	90-313	ARIZ.-N.M., SAFFORD, MORENCI, DUNCAN, SAN SIMON
109°09.4W	32°23.5N	4/12/73	16°54'31	90-314	ARIZ.-N.M., LORDSBURG, ANIMAS VALLEY, ALKALI FLAT
109°52.9W	32°53.3N	1/ 2/74	17°01'53	94-236	ARIZ., THATCHER, GILA R., PINALENO MTS., GILA MTS., WILLCOX
109°32.4W	32°37.6N	1/ 2/74	17°02'00	94-237	ARIZ., N.M., THATCHER, WILLCOX LAKE, BOHIE, PINALENO MTS.
109°12.0W	32°21.8N	1/ 2/74	17°02'06	94-238	ARIZ., N.M., LORDSBURG, CHIRICAHUA MTS., APACHE PASS
109°38.4W	35°50.5N	28/ 1/74	18°17'21	A4-025	ARIZ., N.M., PUERTO R., S-6C, C-5C
109°02.8W	35°28.5N	28/ 1/74	18°17'31	A4-026	ARIZ., N.M., PUERTO R., FENCE LAKE, S-4C, C-50
109°39.4W	36°20.1N	14/ 1/74	16°59'50	70-112	ARIZ., N.M., BLACK MESA, CANYON DE CHELLY, CHUSKA MTS., CHINLE, S-98
109°03.8W	36°43.3N	14/ 1/74	17°00'00	70-113	ARIZ., N.M., UT., COLO., 4-CORNERS, MESA VERDE, CARRIZO MT., S-100
109°40.3W	36°18.6N	14/ 1/74	16°59'49	93-072	ARIZ., N.M., CANYON DE CHELLY, BLACK MESA, CHINLE WASH, S-100
109°18.9W	36°32.6N	14/ 1/74	16°59'55	93-073	ARIZ., N.M., CHUSKA MTS., CARRIZO MT., MEXICAN WATER, S-100, C-30
109°09.4W	38°00.0N	25/11/73	18°54'11	* 52-001	UT., COLO., N.M., CANYONLANDS, SAN JUAN MTS.
109°23.9W	38°56.0N	25/ 1/74	17°33'39	76-350	UTAH, COLO., MCAB, COLORADO R., ARCHES N. P., GRAND JUNCTION, S-100
109°12.3W	38°48.6N	25/ 1/74	17°33'42	94-091	UTAH, COLO., COLORADO R., MCAB, LA SAL MTS., S-100, C-15
109°37.0W	39°02.6N	25/ 1/74	17°33'36	94-090	UTAH, COLORADO R., GREEN R., MCAB, ARCHES N. P., S-100, C-30
109°21.2W	41°24.5N	30/ 1/74	16°49'59	A4-176	COLO., WYO., UTAH, GREEN R., FLAMING GORGE, UTAH MTS., S-100, C-60
109°41.7W	41°33.5N	30/ 1/74	16°49'54	94-150	WYO., ROCK SPRINGS, S-100, C-60
109°25.5W	43°40.5N	31/ 1/74	16°06'21	A4-325	WYO., IDAHO, MONT., C-100
109°15.6W	43°21.1N	21/ 1/74	20°04'50	64-364	WYO., WIND RIVER MTS., WIND R., WIND RIVER BASIN, S-100, C-30
109°50.6W	43°44.4N	21/ 1/74	20°04'42	92-266	WYO., ABSAROKA MTS., WIND RIVER MTS., WIND RIVER BASIN, C-10, S-80
109°22.9W	43°33.2N	21/ 1/74	20°04'48	92-267	WYO., WIND RIVER, WIND RIVER MTS., WIND RIVER BASIN, OWL CREEK MTS
109°19.2W	45°17.3N	22/ 1/74	19°21'20	70-243	MONT., WYO., BIG HORN BASIN, ABSAROKA MTS., S-50, C-60
109°54.8W	45°28.5N	22/ 1/74	19°21'12	93-124	WYO., MONT., RED LODGE, CLARKS FORK OF YELLOWSTONE, C-70, S-30
109°25.5W	45°18.6N	22/ 1/74	19°21'18	93-125	WYO., MONT., RED LODGE, CLARKS FORK ABSAROKA MTS., S-40, C-60
109°56.8W	46°54.4N	18/ 1/74	20°37'13	70-138	MONT., LITTLE BELT MTS., C-95
109°06.7W	46°40.5N	18/ 1/74	20°37'23	70-139	MONT., C-100
109°36.4W	46°48.1N	18/ 1/74	20°37'17	92-154	MONTANA, OLD BALDY, C-95
109°05.1W	46°35.5N	18/ 1/74	20°37'24	92-155	MONTANA, C-98
109°10.3W	47°52.4N	24/ 1/74	17°54'32	70-337	MONT., EAST OF LITTLE ROCK MTS., C-95
109°30.5W	48°52.2N	20/ 1/74	19°10'20	70-208	MONT., C-100
108°19.6W	22°55.7N	2/12/73	18°23'10	* 52-225	PACIFIC C. OFF MEXICO
108°49.3W	25°27.5N	12/ 1/74	16°47'30	64-269	MEXICO (SINALOA), GULF OF CALIF., C-75
108°21.2W	25°54.5N	12/ 1/74	16°47'40	64-270	MEXICO (SINALOA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, C-50
108°46.6W	25°25.0N	12/ 1/74	16°47'30	92-095	MEXICO (SINALOA), LOS MOCHIS, RIO SINALOA, PUNTA PERIHUETE, C-80
108°29.2W	25°45.6N	12/ 1/74	16°47'36	92-096	MEXICO (SINALOA), LOS MOCHIS, RIO SINALOA, C-50
108°12.0W	26°02.6N	12/ 1/74	16°47'43	92-097	MEXICO (SINALOA), RIO SINALOA, RIO FURTE, C-35
108°28.5W	27°47.5N	3/12/73	17°38'51	* 52-300	SONORA, CHIHUAHUA, SIERRA MADRE OCCIDENTAL, CANYON DE CCBRE
108°07.4W	27°27.5N	3/12/73	17°38'58	90-266	SONORA-CHIHUAHUA, SIERRA MADRE OCCIDENTAL, RIO VERDE
108°57.8W	28°14.4N	3/12/73	17°38'41	* 52-299	SONORA, PRESA HICALGO, PRESA MOCUZARI, SIERRA MADRE OCCIDENTAL
108°56.8W	28°11.3N	26/ 1/74	19°45'29	▲ 76-094	MEXICO (SONORA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, OBREGON RES.
108°46.3W	28°02.5N	3/12/73	17°38'45	90-265	SONORA-CHIHUAHUA, RIO MAYO, SIERRA MADRE OCCIDENTAL
108°50.9W	29°47.5N	11/ 1/74	17°31'40	64-241	MEXICO (SONORA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, MADERA
108°49.6W	29°47.5N	11/ 1/74	17°31'40	92-017	MEXICO (CHIHUAHUA-SONORA), RIO BAVISPI, SIERRA MADRE OCCIDENTAL

LONGITUDE ODDMM.M	LATITUDE DDMM.M	DATE DD/MM/YY	TIME HHMMSS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
108°20.3W	30°14.1N	11/ 1/74	17°31'50	64-242	MEXICO (SONORA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, NUEVAS CASAS GRAND
108°30.8W	30°03.6N	11/ 1/74	17°31'46	92-018	MEXICO (CHIHUAHUA-SONORA), NUEVO CASAS GRANDES, RIO BAVISPI
108°12.3W	30°19.7N	11/ 1/74	17°31'52	92-019	MEXICO (CHIHUAHUA), NUEVO CASAS GRANDES, RIO CASAS GRANDES
108°27.8W	31°47.7N	1/ 2/74	17°02'20	48-047	ARIZ., N.M., MEXICO (SONORA-CHIHUAHUA), PLAYAS LAKES, RIO CASAS GRANDE
108°09.0W	31°32.5N	1/ 2/74	17°02'26	48-048	N.M., ARIZ., MEXICO (CHIHUAHUA-SONORA), RIO CASAS GRANDES
108°29.5W	31°52.2N	4/12/73	16°54'43	90-316	NEW MEXICO-CHIHUAHUA, LORDSBURG, PLAYAS LAKE
108°09.0W	31°36.6N	4/12/73	16°54'50	90-317	NEW MEXICO-CHIHUAHUA, COLUMBUS, PALOMAS, RIO CASAS GRANDES
108°32.8W	31°50.6N	1/ 2/74	17°02'18	94-240	ARIZ., N.M., SONORA, CHIHUAHUA, LORDSBURG, PLAYAS LAKE
108°14.0W	31°35.5N	1/ 2/74	17°02'24	94-241	ARIZ., N.M., SONORA, CHIHUAHUA, ANIMAS MTS., HACHITA
108°46.9W	32°02.8N	1/ 2/74	17°02'14	48-046	ARIZ., N.M., CHIRICAHUA MTS., PLAYAS VALLEY, LORDSBURG, RODEO
108°49.3W	32°07.5N	4/12/73	16°54'37	90-315	NEW MEXICO, LORDSBURG, PLAYAS LAKE, HACHITA
108°52.6W	32°06.2N	1/ 2/74	17°02'12	94-239	ARIZ., N.M., LORDSBURG, RODEO, CHIRICAHUA MTS., SAN SIMON
108°28.2W	35°05.1N	28/ 1/74	18°17'41	A4-027	ARIZ., N.M., PUERTO R., RIO SAN JOSE, GRANTS, S-20, C-75
108°56.8W	36°46.5N	14/ 1/74	17°00'01	93-074	ARIZ., N.M., UTAH, COLO., 4-CORNERS, CORTEZ, MESA VERDE, FRUITLAND
108°32.1W	37°26.1N	29/11/73	18°54'21	* 52-002	COLO., N.M., UT., ARIZ., SAN JUAN MTS., UNCOMPAGHRE PLATEAU
108°27.8W	37°06.4N	14/ 1/74	17°00'10	70-114	ARIZ., N.M., UT., COLO., MESA VERDE, SLEEPING UTE MT., DURANGO, CORTEZ
108°42.7W	37°32.4N	29/11/73	18°54'18	89-001	UTAH, COLORADO, ARIZ., NEW MEXICO
108°19.9W	37°13.2N	29/11/73	18°54'24	89-032	COLO., UTAH, ARIZ., N.M., SAN JUAN R., FRUITLAND, VALLECITO LAKE
108°34.4W	37°01.3N	14/ 1/74	17°00'08	93-075	COLO., N.M., MESA VERDE, CORTEZ, DURANGO, MANLOS, ANIMAS R. C-100
108°11.4W	37°15.8N	14/ 1/74	17°00'14	93-076	COLO., N.M., DURANGO, LAS ANIMAS R., SAN JUAN MTS., S-100, C-20
108°45.6W	38°33.5N	29/ 1/74	17°33'49	76-351	COLO., UTAH, COLORADO R., GRAND JUNCTION, DELTA, CUNNISON R., PARADO
108°08.4W	38°11.6N	29/ 1/74	17°33'54	76-352	COLO., UTAH, UNCOMPAGHRE PLATEAU, SAN JUAN MTS., DURANGO, S-100
108°48.9W	38°34.5N	29/ 1/74	17°33'48	94-092	UTAH, COLO., LA SAL MTS., UNCOMPAGHRE PLATEAU, PARADOX VALLEY, S-100
108°25.5W	38°21.2N	29/ 1/74	17°33'55	94-093	COLO., SAN MIGUEL R., UNCOMPAGHRE PLATEAU, MONTROSE, S-100
108°02.5W	38°07.4N	29/ 1/74	17°34'01	94-094	COLO., SAN MIGUEL MTS., TELLURIDE, DOLORES R., UPHIR, S-100
108°07.4W	40°46.5N	3C/ 1/74	16°50'17	94-152	COLO., WYO., CRAIG, YAMPA R., LITTLE SNAKE R., SUNBEAM, S-100
108°40.4W	41°04.2N	3C/ 1/74	16°50'09	A4-177	COLO., WYO., UTAH, FLAMING GORGE, LINTA MTS., GREEN R., YAMPA R., S-100
108°06.3W	41°06.7N	3C/ 1/74	16°50'07	94-151	COLO., WYO., UTAH, GREEN R., UINTA MTS., S-95, C-20
108°00.8W	42°58.5N	21/ 1/74	20°05'07	92-270	WYO., WIND RIVER, RIVERTON, GAS HILLS, C-50, S-90
108°41.7W	43°22.8N	31/ 1/74	16°06'31	A4-326	WYO., C-100
108°31.5W	43°12.7N	21/ 1/74	20°05'00	64-365	WYO., OWL CREEK MTS., WIND RIVER MTS., WIND RIVER CANYON, S-95, C-60
108°55.2W	43°21.2N	21/ 1/74	20°04'55	92-268	WYO., WIND RIVER, WIND RIVER CANYON, WIND RIVER MTS., BOYSEN RES.
108°27.8W	43°10.4N	21/ 1/74	20°05'01	92-269	WYO., BOYSEN RES., WIND RIVER, WIND RIVER BASIN, RIVERTON, C-30, S-100
108°25.9W	44°58.2N	22/ 1/74	19°21'31	93-127	WYO., MONT., YELLOWTAIL RES., BIG HORN R., POWELL, BIG HORN MTS.,
108°32.1W	45°01.2N	22/ 1/74	19°21'30	70-244	MONT., WYO., BIG HORN BASIN, BIG HORN R., POWELL, S-50, C-50
108°55.5W	45°06.4N	22/ 1/74	19°21'25	93-126	WYO., MONT., BIG HORN R., SHOSHONE R., POWELL, C-50, S-20
108°17.3W	46°26.7N	18/ 1/74	20°37'33	70-140	MONT., C-98
108°34.1W	46°31.6N	18/ 1/74	20°37'30	92-156	MONTANA, C-98
108°02.8W	46°21.7N	18/ 1/74	20°37'36	92-157	MONTANA, C-98
108°17.9W	47°41.2N	24/ 1/74	17°54'42	70-338	MONT., EAST OF LITTLE ROCK MTS., C-92
107°00.2W	21°35.6N	2/12/73	18°23'40	* 52-227	MEXICO (NAYARIT), ISLAS MARIAS
107°09.1W	21°44.6N	2/12/73	18°23'37	90-194	NAYARIT, ISLAS MARIAS
107°24.2W	22°01.5N	2/12/73	18°23'31	* 52-226	PACIFIC O. OFF MEXICO ISLA SAN JUANITO
107°30.5W	26°54.2N	3/12/73	17°39'11	* 52-302	SINALOA, CHIHUAHUA, DURANGO, SIERRA MADRE OCCIDENTAL
107°02.1W	26°27.1N	3/12/73	17°39'21	* 52-303	SINALOA, CHIHUAHUA, DURANGO, SIERRA MADRE OCCIDENTAL
107°54.2W	26°20.5N	12/ 1/74	16°47'49	64-271	MEXICO (SINALOA), CHIHUAHUA, RIO SAN MIGUEL, SIERRA MADRE OCCIDENTAL
107°24.9W	26°48.7N	12/ 1/74	16°48'00	64-272	MEXICO (SINALOA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, C-10
107°01.8W	26°24.6N	26/ 1/74	19°46'09	▲ 76-096	MEXICO (SONORA), CHIHUAHUA, RIO MAYO, SIERRA MADRE OCCIDENTAL
107°37.1W	26°58.5N	3/12/73	17°39'09	90-267	SONORA-CHIHUAHUA, SIERRA MADRE OCCIDENTAL, RIO SAN MIGUEL
107°18.6W	26°41.5N	3/12/73	17°39'15	90-268	SONORA-CHIHUAHUA, DURANGO, SIERRA MADRE OCCIDENTAL
107°00.8W	26°24.6N	3/12/73	17°39'21	90-269	SONORA-CHIHUAHUA, DURANGO, SIERRA MADRE OCCIDENTAL
107°54.5W	26°19.2N	12/ 1/74	16°47'49	92-098	MEXICO (SINALOA-CHIHUAHUA), RIO SINALOA, MESA LAKE, C-25
107°36.7W	26°36.4N	12/ 1/74	16°47'55	92-099	MEXICO (SINALOA-CHIHUAHUA), RIO SAN MIGUEL, SIERRA MADRE OCCIDENTAL
107°18.6W	26°53.3N	12/ 1/74	16°48'01	92-100	MEXICO (SINALOA-CHIHUAHUA), RIO SAN MIGUEL, SIERRA MADRE OCCIDENTAL
107°59.2W	27°20.5N	3/12/73	17°39'01	* 52-301	SONORA, CHIHUAHUA, SIERRA MADRE OCCIDENTAL, RIO VERDE
107°58.8W	27°17.5N	26/ 1/74	19°45'49	▲ 76-095	MEXICO (SONORA), CHIHUAHUA, SIERRA MADRE OCCIDENTAL, OREGON RES.
107°01.2W	27°05.7N	12/ 1/74	16°48'07	92-101	MEXICO (CHIHUAHUA), SIERRA MADRE OCCIDENTAL, RIO URQUE, C-10
107°12.7W	30°46.4N	1/ 2/74	17°02'44	48-051	MEXICO (CHIHUAHUA), NUEVO CASAS GRANDES, CERRO NORIA, VILLA AHUMADA
107°49.6W	30°39.5N	11/ 1/74	17°32'00	64-243	MEXICO (CHIHUAHUA), NUEVO CASAS GRANDES, AGUAS TERMALES
107°11.0W	30°48.2N	4/12/73	16°55'08	90-320	CHIHUAHUA, LAGUNA DE SANTA MARIA, AGUAS TERMALES
107°51.9W	30°36.8N	11/ 1/74	17°31'59	92-020	MEXICO (CHIHUAHUA), LAGUNA GUZMAN, RIO SANTA MARIA
107°33.3W	30°52.6N	11/ 1/74	17°32'04	92-021	MEXICO (CHIHUAHUA), LAGUNA SANTA MARIA, LAGUNA GUZMAN
107°14.7W	30°46.5N	1/ 2/74	17°02'43	94-244	CHIHUAHUA, AGUAS TERMALES, LAGUNA SANTA MARIA, RIO S. MARIA
107°50.3W	31°17.3N	1/ 2/74	17°02'32	48-049	N.M., MEXICO (CHIHUAHUA-SONORA), LAGO GUZMAN, LACS DE CARRETES
107°31.1W	31°10.7N	1/ 2/74	17°02'38	48-050	MEXICO (CHIHUAHUA), NUEVO CASAS GRANDES, LAGUNA DE PATOS, CERRO NORIA
107°49.9W	31°20.5N	4/12/73	16°54'56	90-318	NEW MEXICO-CHIHUAHUA, COLUMBUS, LAGUNA DE GUZMAN
107°30.2W	31°04.3N	4/12/73	16°55'02	90-319	CHIHUAHUA, LAGUNA DE GUZMAN, GUZMAN, RIO SANTA MARIA
107°14.7W	31°07.6N	11/ 1/74	17°32'11	92-022	N.M., MEXICO, (CHIHUAHUA), LAGUNA SANTA MARIA
107°55.9W	31°19.2N	1/ 2/74	17°02'31	94-242	ARIZ., N.M., CHIHUAHUA, LA ASCENSION, RIO CASAS GRANDES
107°33.8W	31°02.6N	1/ 2/74	17°02'37	94-243	CHIHUAHUA, LAGO GUZMAN, LAGUNA SANTA MARIA, GUZMAN
107°54.2W	34°41.2N	28/ 1/74	18°17'51	A4-028	N.M., RIO GRANDE, BELEM, LADRON MTS., GALLINAS MTS., S-20, C-50
107°20.3W	34°17.6N	28/ 1/74	18°18'01	A4-029	N.M., RIO GRANDE, SUCORRO, ELEPHANT BLTIES RES., MAGDALENA MTS.

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
107°55.5W	36°56.7N	29/11/73	18°54'31	* 52-003	COLU., N. M., UT., ARIZ., 4-CORNERS, SAN JUAN MTS., GRAND MESA
107°19.6W	36°24.7N	29/11/73	18°54'41	* 52-004	N. M., COLO., ARIZ., UT., SAN JUAN MTS., RIO GRANDE, 4-CORNERS
107°57.2W	36°53.4N	29/11/73	18°54'31	89-003	COLO., N. M., ARIZ., CHUSKA MTS., SAN JUAN R., SAN JUAN MTS.,
107°34.4W	36°33.4N	29/11/73	18°54'37	89-004	N. M., COLO., MESA VERDE, CORTEZ, DURANGO, NAVAJO RES., FARMINGTON
107°12.0W	36°13.5N	29/11/73	18°54'43	89-005	N. M., COLO., CHACO CANYON, JEMEZ MTS., CHAMA, EL VAIO LAKE
107°51.6W	37°29.1N	14/ 1/74	17°00'20	70-115	N. M., COLO., DURANGO, SAN JUAN MTS., TELLURIDE, SILVERTON, DURAY, C-20
107°14.7W	37°51.5N	14/ 1/74	17°00'30	70-116	COLO., SAN JUAN MTS., CREEDE, PAGCSA SPGS., SILVERTON, RIO GRANDE, C-30
107°31.1W	37°49.2N	29/ 1/74	17°34'09	76-353	COLO., DURANGO, VALLECITO LAKE, RIO GRANDE R., CREEDE, S-100, C-10
107°48.0W	37°30.3N	14/ 1/74	17°00'20	93-077	COLO., VALLECITO LAKE, DURANGO, SAN JUAN MTS., SILVERTON, S-100, C-15
107°25.5W	37°44.1N	14/ 1/74	17°00'26	93-078	COLO., SAN JUAN MTS., CREEDE, VALLECITO LAKE, SILVERTON, S-100
107°02.1W	37°58.3N	14/ 1/74	17°00'33	93-079	COLO., SOUTH FORK, CREEDE, 30-MILE, RIO GRANDE, S-100
107°39.1W	37°53.0N	29/ 1/74	17°34'07	94-095	COLO., SAN JUAN MTS., LAS ANIMAS R., SILVERTON, VALLECITO LAKE, C-100
107°16.6W	37°39.5N	29/ 1/74	17°34'13	94-096	COLO., SAN JUAN MTS., RIO GRANDE RES., CREEDE, S-100, C-10
107°30.0W	39°16.0N	2/12/73	16°43'00	* 52-165	COLO., COLORADO R., GORE RANGE, C-75
107°59.5W	40°43.5N	30/ 1/74	16°50'19	A4-178	COLO., WYO., UTAH, GREEN R., WHITE R., CRAIG, S-100, C-20
107°18.9W	40°22.8N	30/ 1/74	16°50'29	A4-179	COLO., WYO., MEEKER, STEAMBOAT SPRINGS, NORTH PARK, S-100
107°42.3W	40°34.2N	30/ 1/74	16°50'23	94-153	COLO., WYO., CRAIG, YAMPA R., MESA VIEW, S-100
107°16.6W	40°20.8N	30/ 1/74	16°50'29	94-154	COLO., STEAMBOAT SPRINGS, CRAIG, WHITE MTS., S-100, C-10
107°15.0W	42°45.5N	31/ 1/74	16°06'50	A4-328	WYO., C-100
107°48.0W	42°54.1N	21/ 1/74	20°05'10	64-366	WYO., WIND R., BOYSEN R., BIG HORN R., C-80, S-100
107°04.8W	42°35.3N	21/ 1/74	20°05'20	64-367	WYO., C-100
107°33.8W	42°47.2N	21/ 1/74	20°05'13	92-271	WYO., GAS HILLS, C-85, S-95
107°07.1W	42°35.5N	21/ 1/74	20°05'19	92-272	WYO., C-95
107°58.2W	43°04.5N	31/ 1/74	16°06'41	A4-327	WYO., C-100
107°45.6W	44°44.7N	22/ 1/74	19°21'40	70-245	WYO., MONT., BIG HORN MTS., BIG HORN BASIN, BIG HORN R., S-60, C-40
107°56.9W	44°48.0N	22/ 1/74	19°21'37	93-128	WYO., BIG HORN BASIN, BIG HORN R., BIG HORN MTS., C-60, S-40
107°27.2W	44°37.3N	22/ 1/74	19°21'44	93-129	WYO., BIG HORN R., BIG HORN MTS., SHERIDAN, C-30, S-80
107°28.2W	46°12.3N	18/ 1/74	20°37'43	70-141	MONT., YELLOWSTONE R., FORSYTH, C-85
107°32.1W	46°12.8N	18/ 1/74	20°37'42	92-158	MONTANA, YELLOWSTONE R., FORSYTH, C-80, S-20
107°01.5W	46°03.5N	18/ 1/74	20°37'49	92-159	MONTANA, YELLOWSTONE R., FORSYTH, C-70, S-20
107°26.9W	47°28.5N	24/ 1/74	17°54'52	70-339	MONT., FT. PECK RES., C-92
107°42.3W	48°33.6N	20/ 1/74	19°10'40	70-209	MONT., C-100
106°08.4W	20°35.4N	2/12/73	18°24'00	* 52-229	MEXICO (JALISCO-NAYARIT), PUERTO VALLARTA, BAHIA DE BANDERAS
106°20.6W	20°51.6N	2/12/73	18°23'55	90-197	NAYARIT, MARIA MAGDALENA I., MARIA CLEOFAS I.
106°04.1W	20°33.6N	2/12/73	18°24'02	90-198	JALISCO, CABO CORRIENTES, EL TUITO
106°33.8W	21°07.3N	2/12/73	18°23'50	* 52-228	MEXICO (NAYARIT), ISLAS MARIAS
106°52.3W	21°26.1N	2/12/73	18°23'43	90-195	NAYARIT, ISLAS MARIAS
106°36.1W	21°08.6N	2/12/73	18°23'49	90-196	NAYARIT, ISLAS MARIAS
106°06.1W	25°33.1N	3/12/73	17°39'41	* 52-305	DURANGO, PRESA EL PALMITO, SIERRA MADRE OCCIDENTAL
106°05.5W	25°25.6N	26/ 1/74	19°46'29	▲ 76-097	MEXICO (DURANGO-CHIHUAHUA-SINALOA), SIERRA MADRE OCCIDENTAL
106°23.9W	25°49.2N	3/12/73	17°39'35	90-271	DURANGO, RIO DE LOS LOBOS, SIERRA MADRE OCCIDENTAL
106°34.1W	26°00.1N	3/12/73	17°39'31	* 52-304	DURANGO, SINALOA, SIERRA MADRE OCCIDENTAL
106°43.0W	26°07.7N	3/12/73	17°39'28	90-270	DURANGO-SINALOA, SIERRA MADRE OCCIDENTAL
106°41.7W	26°03.7N	26/ 1/74	19°46'16	92-366	MEXICO (DURANGO-CHIHUAHUA-SINALOA) SIERRA MADRE OCCIDENTAL
106°27.5W	27°42.1N	12/ 1/74	16°48'20	64-273	MEXICO (CHIHUAHUA), LAGUNA DE LOS MEXICANOS, STA. ROSALIA DE CUEVAS
106°42.0W	27°27.6N	12/ 1/74	16°48'14	92-102	MEXICO (CHIHUAHUA), SIERRA MADRE OCCIDENTAL
106°17.3W	29°55.7N	1/ 2/74	17°03'02	48-054	MEXICO (CHIHUAHUA), SIERRA DEL NIDO, LAGUNA DE ENCINILLAS, CERRO COYOTE
106°13.0W	29°59.4N	4/12/73	16°55'27	90-323	CHIHUAHUA, LAGUNA DE ENCINILLAS, SIERRA DE HUESO, GALLEGOS
106°17.0W	29°58.4N	1/ 2/74	17°03'02	94-247	CHIHUAHUA, RANCHO LAS CUATAS, OJO DE LAGUNA
106°54.6W	30°31.0N	1/ 2/74	17°02'50	48-052	MEXICO (CHIHUAHUA), RIO DEL CARMAN, SIERRA DEL NIDO, RIO SANTA MARIA
106°36.1W	30°15.7N	1/ 2/74	17°02'56	48-053	MEXICO (CHIHUAHUA), SIERRA DEL NIDO, LAGUNA DE ENCINILLAS, CERRO COYOTE
106°51.6W	30°32.0N	4/12/73	16°55'15	90-321	CHIHUAHUA, VILLA AHUMADA, LAGUNA DE PATOS, LUGERO
106°32.1W	30°15.7N	4/12/73	16°55'21	90-322	CHIHUAHUA, VILLA AHUMADA, LAGUNA DE PATOS, MOCTEZUMA
106°55.5W	30°30.5N	1/ 2/74	17°02'49	94-245	CHIHUAHUA, VILLA AHUMADA, RIO CARMAN, RIO SANTA MARIA
106°35.8W	30°14.4N	1/ 2/74	17°02'56	94-246	CHIHUAHUA, VILLA AHUMADA, MOCTEZUMA, RIO CARMAN
106°54.6W	31°24.3N	11/ 1/74	17°32'17	92-023	TEX., N. M., MEXICO, (CHIHUAHUA), EL PASO, JUAREZ, RIO GRANDE
106°34.5W	31°40.6N	11/ 1/74	17°32'23	92-024	TEX., N. M., MEXICO, (CHIHUAHUA), EL PASO, JUAREZ, HORIZON CITY
106°14.7W	31°56.2N	11/ 1/74	17°32'30	92-025	TEX., N. M., MEXICO, (CHIHUAHUA), EL PASO, JUAREZ, RIO GRANDE
106°46.7W	33°53.1N	28/ 1/74	18°18'11	A4-030	N. M., RIO GRANDE TRINITY SITE, MALPASS LAVA FLOW
106°13.0W	33°29.2N	28/ 1/74	18°18'21	A4-031	N. M., TRINITY SITE, WHITE SANDS, SACRAMENTO MTS.
106°44.0W	35°53.0N	29/11/73	18°54'51	* 52-005	N. M., COLO., ALBUQUERQUE, SAN JUAN MTS., SAN LUIS VALLEY, NAVAJO LAKE
106°09.1W	35°21.4N	29/11/73	18°55'01	* 52-006	N. M., COLO., ALBUQUERQUE, RIO GRANDE, SAN JUAN MTS., SAN LUIS VALLEY
106°49.9W	35°53.5N	29/11/73	18°54'49	89-006	N. M., COLO., RIO GRANDE, CONEJOS R., BANDELIER, N.M., PAGOSA SPGS
106°27.2W	35°33.6N	29/11/73	18°54'50	89-007	N. M., COLO., ALBUQUERQUE, SANTA FE, RIO GRANDE, SPECTACLE LAKE
106°06.1W	35°14.5N	29/11/73	18°55'02	89-008	N. M., COLO., ALBUQUERQUE, SANTA FE, TAOS, LOS ALAMOS,
106°08.7W	36°57.0N	29/ 1/74	17°34'32	94-099	COLO., N. M., SAN LUIS VALLEY, RIO GRANDE, CONEJOS R., S-100
106°26.2W	37°05.6N	1/12/73	17°27'02	* 52-111	COLO., N. M., SAN JUAN MTS., SAN LUIS VALLEY
106°54.6W	37°26.7N	29/ 1/74	17°34'19	76-354	COLO., N. M., VALLECITO LAKE, RIO GRANDE R., SAN LUIS VALLEY, S-100
106°17.6W	37°03.4N	29/ 1/74	17°34'29	76-355	COLO., N. M., CONEJOS R., ANTONITO, SPECTACLE LAKE, SAN LUIS VALLEY
106°54.2W	37°25.7N	29/ 1/74	17°34'19	94-097	COLO., N. M., SAN JUAN MTS., CONEJOS R., SPECTACLE LAKE, S-100, C-10
106°31.8W	37°11.5N	29/ 1/74	17°34'25	94-098	COLO., N. M., SAN JUAN MTS., PLATERO, ANTONITO, MANASSA, CONEJOS R.
106°37.4W	38°14.3N	14/ 1/74	17°00'40	70-117	COLO., SAN JUAN MTS., SAN LUIS VALLEY, SAWATCH MTS., RIO GRANDE, S-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
106°38.4W	38°12.6N	14/ 1/74	17°00'39	93-080	COLO., SAN LUIS VALLEY, SAWATCH MTS., SAN JUAN MTS., C-100
106°14.7W	38°26.8N	14/ 1/74	17°00'45	93-081	COLO., SAWATCH RANGE, ASPEN, BUENA VISTA, SALIDA, S-100, C-20
106°00.2W	39°40.6N	30/ 1/74	16°50'49	A4-181	COLO., DENVER, LEADVILLE, VAIL, DILLON, CLIMAX, S-100, C-30
106°53.2W	39°51.2N	2/12/73	16°43'10	* 52-166	COLO., VAIL, ASPEN, COLORADO R., C-60
106°16.3W	39°16.3N	2/12/73	16°43'20	* 52-167	COLO., MT. EVANS, SOUTH PARK, LEADVILLE, VAIL, C-40
106°25.6W	39°53.6N	30/ 1/74	16°50'42	94-156	COLO., DILLON, COLORADO R., KREMMLING, VAIL, LEADVILLE, S-100
106°00.8W	39°40.3N	30/ 1/74	16°50'49	94-157	COLO., DILLON, VAIL, BRECKENRIDGE, LEADVILLE, S-100, C-20
106°39.4W	40°01.9N	30/ 1/74	16°50'39	A4-180	COLO., LEADVILLE, ASPEN, VAIL, STEAMBOAT SPRINGS, GRANBY, S-100, C-20
106°52.6W	40°08.2N	30/ 1/74	16°50'36	94-155	COLO., EAGLE, COLORADO R., STEAMBOAT SPRINGS, S-100
106°32.5W	42°26.7N	31/ 1/74	16°07'00	A4-329	WYO., LARAMIE RANGE, C-55
106°21.9W	42°16.6N	21/ 1/74	20°05'30	64-368	WYO., C-100
106°40.1W	42°23.4N	21/ 1/74	20°05'26	92-273	WYO., MEDICINE BOW, C-95, S-100
106°13.0W	42°11.3N	21/ 1/74	20°05'32	92-274	WYO., C-95, S-100
106°59.5W	44°27.9N	22/ 1/74	19°21'50	70-246	WYO., MONT., SHERIDAN, BIG HORN MTS., BIG HORN R., S-90, C-25
106°13.7W	44°10.6N	22/ 1/74	19°22'00	70-247	WYO., BIG HORN MTS., POWDER R., BUFFALO, S-100, C-25
106°58.8W	44°26.7N	22/ 1/74	19°21'50	93-130	WYO., SHERIDAN, BUFFALO, BIG-HORN MTS., POWDER R., C-10, S-90
106°30.5W	44°16.2N	22/ 1/74	19°21'56	93-131	WYO., BIG HORN MTS., BUFFALO, POWDER R., C-10, S-95
106°01.8W	44°05.3N	22/ 1/74	19°22'02	93-132	WYO., POWDER R., BELLE FOURCHE R., C-20, S-100
106°39.4W	45°57.5N	18/ 1/74	20°37'53	70-142	MONT., YELLOWSTONE R., MILES CITY, TONGUE R. FORSYTH, C-70
106°31.2W	45°54.2N	18/ 1/74	20°37'55	92-160	MONTANA, YELLOWSTONE R., TONGUE R., FORSYTH, C-60, S-20
106°35.8W	47°16.6N	24/ 1/74	17°55'02	70-340	MONT., FT. PECK RES., C-95
105°40.7W	18°45.5N	4/ 1/74	19°19'01	91-290	PACIFIC O. OFF MEXICO
105°17.0W	19°42.7N	2/12/73	18°24'20	* 52-231	MEXICO (JALISCO-COLIMA), AUTLAN, PUERTO VALLARTA
105°17.3W	19°23.6N	4/ 1/74	19°19'11	58-295	MEXICO (COLIMA-JALISCO), MANZANILLO
105°32.5W	19°56.5N	2/12/73	18°24'14	90-200	JALISCO, CABO CORRIENTES, PUNTA PARALLON, PLRIFICACION
105°16.7W	19°41.1N	2/12/73	18°24'10	90-201	JALISCO-COLIMA, BAHIA TENACATITA, MALAQUE
105°01.8W	19°24.6N	2/12/73	18°24'26	90-202	JALISCO-COLIMA, MALAQUE
105°24.9W	19°03.3N	4/ 1/74	19°19'08	91-291	MEXICO (COLIMA), PUNTA CHAMELA, C-10
105°08.8W	19°21.6N	4/ 1/74	19°19'14	91-292	MEXICO (JALISCO), BAHIA TENACATITA, C-10
105°42.7W	20°11.2N	2/12/73	18°24'10	* 52-230	MEXICO (JALISCO-NAYARIT), PUERTO VALLARTA, CABO CORRIENTES
105°49.0W	20°16.7N	2/12/73	18°24'08	90-199	JALISCO, CABO CORRIENTES, EL TUITO
105°13.4W	24°45.5N	3/12/73	17°40'01	* 52-307	DURANGO, DURANGO, LAGUNA SANTI VILLA, RIO SANTIAGO
105°10.4W	24°34.7N	26/ 1/74	19°46'49	▲ 76-098	MEXICO (DURANGO-LAGUNA SANTIQUILLA, DURANGO, RIO SAN LORENZO
105°13.7W	24°45.6N	3/12/73	17°40'01	90-273	DURANGO, LAGUNA DE SANTIAGUILLO, RIO RAMOS
105°08.1W	24°31.4N	26/ 1/74	19°46'50	92-367	MEXICO (DURANGO-LAGUNA DE SANTIAGUILLO, CANATLAN
105°39.1W	25°07.5N	3/12/73	17°39'51	* 52-306	DURANGO, LAGO SANTIAGUILLO, RIO SANTIAGO
105°47.3W	25°12.6N	3/12/73	17°39'48	90-272	DURANGO, SANTIAGO PAPASQUIARO, SIERRA MADRE OCCIDENTAL
105°05.1W	28°56.5N	1/ 2/74	17°03'26	48-058	MEXICO (CHIHUAHUA), CHIHUAHUA, DELICIAS, RIO CONCHOS, CHILICOTE
105°29.2W	28°35.2N	12/ 1/74	16°48'40	64-274	MEXICO (CHIHUAHUA), CHIHUAHUA CITY, LAGUNA DELICIAS, C-40
105°01.8W	28°52.8N	1/ 2/74	17°03'27	94-251	CHIHUAHUA, RIO CONCHO, CHILICOTE, CHARCO DEL PENA
105°59.5W	29°44.2N	1/ 2/74	17°03'08	48-055	MEXICO (CHIHUAHUA), CHIHUAHUA, SIERRA DEL NIDO, SIERRA DE LA TASAJERA
105°41.4W	29°28.6N	1/ 2/74	17°03'14	48-056	MEXICO (CHIHUAHUA), CHIHUAHUA, SIERRA DEL NIDO, SIERRA DE LA TASAJERA
105°22.9W	29°12.6N	1/ 2/74	17°03'20	48-057	MEXICO (CHIHUAHUA), CHIHUAHUA, ALDAMA, RIO CONCHOS, LAGUNA DEL CUERVO
105°53.9W	29°42.5N	4/12/73	16°55'34	90-324	CHIHUAHUA, LAGUNA DE ENCINILLAS
105°57.9W	29°41.6N	1/ 2/74	17°03'08	94-248	CHIHUAHUA, OJO DE LAGUNA, LAGUNA DEL CUERVO
105°39.1W	29°25.6N	1/ 2/74	17°03'15	94-249	CHIHUAHUA, LAGUNA DEL CUERVO, SIERRA TASAJERA, ALDAMA
105°20.3W	29°09.3N	1/ 2/74	17°03'21	94-250	CHIHUAHUA, ALDAMA, LAGUNA DEL CUERVO, RIO CONCHOS
105°07.1W	32°40.5N	28/ 1/74	18°18'41	A4-033	N. M., TEX., GUADALUPE MTS., CARLSBAD, PECOS R.
105°55.2W	32°11.7N	11/ 1/74	17°32'36	92-026	TEX., N. M., SACRAMENTO MTS., ORD GRANDE
105°35.1W	32°27.5N	11/ 1/74	17°32'42	92-027	N. M., SACRAMENTO MTS., GUADALUPE MTS., PINON
105°15.0W	32°43.4N	11/ 1/74	17°32'48	92-028	N. M., SACRAMENTO MTS., GUADALUPE MTS., PINON ELK
105°19.6W	32°45.1N	28/ 1/74	18°18'37	93-303	N. M., SACRAMENTO MTS.
105°40.1W	33°05.1N	28/ 1/74	18°18'31	A4-032	N. M., WHITE SANDS, ALAMAGORDO, SACRAMENTO MTS.
105°52.3W	33°32.6N	5/12/73	16°11'30	* 52-332	NEW MEXICO, WHITE SANDS, N. M., SACRAMENTO MTS.
105°19.6W	33°07.3N	5/12/73	16°11'40	* 52-333	N. M., WHITE SANDS, N. M., SACRAMENTO MTS., ROSWELL
105°34.5W	34°45.8N	29/11/73	18°55'11	* 52-007	N. M., COLO., ALBUQUERQUE, RIO GRANDE, SANGRE DE CRISTO MTS.
105°00.2W	34°16.6N	29/11/73	18°55'21	* 52-008	N. M., COLO., ALBUQUERQUE, SANGRE DE CRISTO MTS., SACRAMENTO MTS.
105°44.4W	34°54.5N	29/11/73	18°55'08	89-009	N. M., COLO., ALBUQUERQUE, SANTA FE, SANDIA MTS., LOS ALAMOS
105°50.3W	36°46.8N	1/12/73	17°27'12	* 52-112	COLO., N. M., SAN JUAN MTS., SAN LUIS VALLEY, RIO GRANDE, TAOS, C-15
105°14.7W	36°23.5N	1/12/73	17°27'22	* 52-113	N. M., TAOS, SANGRE DE CRISTO MTS., LAS VEGAS, C-15
105°41.4W	36°40.3N	29/ 1/74	17°34'39	76-356	COLO., N. M., SAN LUIS VALLEY, MANASSA, SANGRE DE CRISTO MTS., S-70
105°06.1W	36°16.5N	29/ 1/74	17°34'49	76-357	COLO., N. M., RIO GRANDE, SANGRE DE CRISTO MTS., WAGON MOUND, S-30
105°37.4W	36°37.4N	1/12/73	17°27'16	90-086	NEW MEXICO, TAOS, QUESTA, RIO GRANDE S-20
105°46.3W	36°42.5N	29/ 1/74	17°34'38	94-100	COLO., N. M., TAOS, SAN LUIS VALLEY, RIO GRANDE, QUESTA, S-100
105°23.3W	36°27.5N	29/ 1/74	17°34'44	94-101	N. M., SANGRE DE CRISTO MTS., TAOS, RED R., EAGLE NEST, S-70
105°01.5W	36°13.6N	29/ 1/74	17°34'51	94-102	N. M., PHILMONT, EAGLE NEST, CIMARRON, WAGON MOUND, S-30
105°02.2W	38°36.5N	2/12/73	16°43'40	* 52-169	COLO., ARKANSAS R., PUEBLO, COLORADO SPRINGS, SOUTH PARK, 11-MILE RES
105°59.9W	38°36.4N	14/ 1/74	17°00'50	70-118	COLO., SANGRE DE CRISTO MTS., SAN LUIS VALLEY, MT. VALLEY, S-100
105°21.9W	38°58.4N	14/ 1/74	17°01'00	70-119	COLO., BUENA VISTA, S. PARK, RAMPART RANGE, S-90, C-45
105°52.3W	38°40.0N	14/ 1/74	17°00'51	93-082	COLO., ARKANSAS R., SANGRE DE CRISTO, SAWATCH RANGES, S. PARK, S-100
105°28.2W	38°53.8N	14/ 1/74	17°00'58	93-083	COLO., COLORADO SPGS., RAMPART RANGE, SOUTH PARK, S-100, C-40
105°21.6W	39°15.4N	30/ 1/74	16°50'59	A4-182	COLO., DENVER, COLORADO SPRINGS, PIKE'S PEAK, SOUTH PARK, S-50, C-30
105°04.4W	39°01.2N	2/12/73	16°43'30	* 52-168	COLO., COLORADO SPRINGS, SOUTH PARK, MT. EVANS, USAF ACADEMY, C-30
105°04.2W	39°07.7N	14/ 1/74	17°01'04	93-084	COLO., DENVER, COLORADO SPGS, C-4C, S-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
105°36.1W	29°26.5N	30/ 1/74	16°50'55	94-158	COLO., DENVER (S. SUBURBS), RAMPART RANGE, SOUTH PARK, DILLON, S-100
105°12.4W	39°13.3N	30/ 1/74	16°51'01	94-159	COLO., DENVER (S. SUBURBS), COLORADO SPRINGS, RAMPART RANGE, S-90
105°08.8W	41°47.5N	31/ 1/74	16°07'20	44-331	WYO., LARAMIE, C-90
105°39.7W	41°56.6N	21/ 1/74	20°05'40	64-369	WYO., COLO., C-100
105°46.7W	41°55.1N	21/ 1/74	20°05'38	92-275	WYO., C-98
105°20.0W	41°46.5N	21/ 1/74	20°05'45	92-276	WYO., COLO., C-98
105°50.6W	42°07.5N	31/ 1/74	16°07'10	44-330	WYO., MEDICINE BOW MTS., C-50
105°28.5W	43°53.1N	22/ 1/74	19°22'10	70-248	WYO., CHEYENNE R., BELLE FOURCHE R., S-100, C-25
105°34.8W	43°54.7N	22/ 1/74	19°22'08	93-133	WYO., ANTELOPE CREEK, BELLE FOURCHE R., C-30, S-100
105°06.5W	43°43.5N	22/ 1/74	19°22'15	93-134	WYO., CHEYENNE R., BEAVER CREEK, C-30, S-100
105°46.3W	45°42.2N	18/ 1/74	20°38'03	70-143	MONT., S. D., YELLOWSTONE R., MILES CITY, POWDER R., TONGUE R., C-40
105°00.5W	45°26.5N	18/ 1/74	20°38'13	70-144	S. D., MONT., WYO., LITTLE MISSOURI R., POWDER R., LITTLE POWDER R.
105°58.9W	45°44.8N	18/ 1/74	20°38'01	92-161	MONTANA, TONGUE R., PUMPKIN R., MIZPAH R., C-40
105°18.3W	45°34.6N	18/ 1/74	20°38'07	92-162	MONTANA, WYO., POWDER R., BROADS, PUMPKIN R., C-20
105°44.0W	47°03.1N	24/ 1/74	17°55'12	70-341	MONT., FT. PECK RES., C-98
105°56.6W	48°12.3N	20/ 1/74	19°11'00	70-210	MONT., C-100
104°26.9W	18°46.6N	2/12/73	18°24'40	* 52-233	MEXICO (JALISCO-COLIMA-MICHOACAN), MANZANILLO, PUNTA SAN JUAN LIMA
104°01.5W	18°17.2N	2/12/73	18°24'50	* 52-234	MEXICO (COLIMA-MICHOACAN) PUNTA SAN TELMO
104°31.2W	18°49.6N	2/12/73	18°24'38	90-204	COLIMA-MICHOACAN, MANZANILLO, COAHUILA
104°15.7W	18°32.2N	2/12/73	18°24'45	90-205	COLIMA-MICHOACAN, MANZANILLO, PUNTA SAN JUAN DE LIMA
104°00.2W	18°14.6N	2/12/73	18°24'51	90-206	COLIMA-MICHOACAN, PUNTA SAN JUAN DE LIMA, PUNTA SAN TELMO
104°52.0W	19°14.4N	2/12/73	18°24'30	* 52-232	MEXICO (JALISCO-COLIMA), MANZANILLO, BAHIA MANZANILLO
104°51.6W	19°42.2N	4/ 1/74	19°19'21	58-296	MEXICO (COLIMA-JALISCO), MANZANILLO, ATLÁN
104°46.7W	19°07.3N	2/12/73	18°24'32	90-203	JALISCO-COLIMA, MANZANILLO, PUNTA CAMPOS
104°53.3W	19°39.3N	4/ 1/74	19°19'20	91-293	MEXICO (JALISCO), BAHIA TENACATITA, BAHIA CHAMELA
104°37.1W	19°57.1N	4/ 1/74	19°19'27	91-294	MEXICO (JALISCO), ATLÁN, TALPA DE ALLENDE
104°25.9W	20°10.6N	4/ 1/74	19°19'31	58-297	MEXICO (COLIMA-JALISCO), LAGO CHAPALA, COCULA, AMECA
104°00.5W	20°38.8N	4/ 1/74	19°19'41	58-298	MEXICO (COLIMA-JALISCO), GUADAJARA, AMECA, LAGO CHAPALA
104°21.0W	20°14.5N	4/ 1/74	19°19'33	91-295	MEXICO (JALISCO), AMECA, ATLÁN, TALPA DE ALLENDE
104°05.2W	20°32.3N	4/ 1/74	19°19'39	91-296	MEXICO (JALISCO), AMECA, ETZATLÁN, COCULA
104°16.4W	23°43.6N	3/12/73	17°40'21	* 52-309	DURANGO, ZACATECAS, DURANGO, SOMBERETE
104°15.7W	23°39.7N	26/ 1/74	19°47'09	▲ 76-099	MEXICO (DURANGO-ZACATECAS) DURANGO, MIGUEL AUZA, VILLA UNION
104°43.7W	24°10.7N	3/12/73	17°40'11	* 52-308	DURANGO, ZACATECAS, DURANGO, LAGUNA SANTI GUILLA, RIO SANTIAGO
104°36.5W	24°00.3N	3/12/73	17°40'14	90-274	DURANGO, DURANGO CANTALAN, NOMBRE DE DIOS
104°47.7W	28°41.3N	1/ 2/74	17°03'32	48-059	MEXICO (CHIHUAHUA), DELICIAS, RIO CONCHOS
104°29.9W	28°25.5N	1/ 2/74	17°03'38	48-060	MEXICO (CHIHUAHUA), DELICIAS, RIO CONCHOS
104°12.1W	28°05.3N	1/ 2/74	17°03'44	48-061	MEXICO (CHIHUAHUA), BOLSON DE MAPIMI, LLANOS DE LOS CARALLCS MESTENOS
104°43.7W	28°36.7N	1/ 2/74	17°03'33	94-252	CHIHUAHUA, LAS MESTENAS, CHARCO DEL PENA
104°25.3W	28°20.4N	1/ 2/74	17°03'39	94-253	CHIHUAHUA, LAS MESTENAS, EL BARRIAL
104°06.8W	28°03.5N	1/ 2/74	17°03'46	94-254	CHIHUAHUA, COAHUILA, LAGUNA DE LOS FRAILES, EL BARRIAL
104°29.5W	29°27.6N	12/ 1/74	16°49'00	64-275	MEXICO (CHIHUAHUA), TEX., RIO GRANDE, C-70
104°02.5W	31°51.6N	28/ 1/74	18°19'01	44-035	TEX., N. M., PECOS, PECOS R., RED BLUFF LAKE
104°34.5W	32°16.3N	28/ 1/74	18°18'51	44-034	N. M., TEX., CARLSBAD, GUADALUPE MTS., RED BLUFF LAKE, PECOS R.
104°47.0W	32°42.2N	5/12/73	16°11'50	* 52-334	N. M., TEX., EL CAPITAN PEAK, PECOS R., ROSWELL, CARLSBAD
104°55.3W	32°56.4N	11/ 1/74	17°32'54	92-029	N. M., ROSWELL, PECOS R., ARTESIA MONUMENT, CANYON
104°58.9W	32°33.8N	28/ 1/74	18°18'43	93-304	N. M., GUADALUPE MTS., RIO PENASCO, PECOS R.
104°38.1W	32°18.2N	28/ 1/74	18°18'50	93-305	TEX., N. M., GUADALUPE MTS., EL CAPITAN, CARLSBAD
104°18.3W	32°02.6N	28/ 1/74	18°18'56	93-306	TEX., N. M., CARLSBAD CAVERNS, GUADALUPE MTS., RED BLUFF LAKE
104°13.4W	33°33.6N	29/11/73	18°55'35	* 52-009	TEX., N. M., PECOS R., CARLSBAD, ROSWELL, FT. SUMNER
104°34.5W	33°14.2N	11/ 1/74	17°33'01	92-030	N. M., ROSWELL, PECOS R., BOTTOMLESS LAKES, MESCALERO SANDS
104°14.4W	33°25.3N	11/ 1/74	17°33'07	92-031	N. M., ROSWELL, PECOS R., MESCALERO SANDS
104°04.8W	35°37.2N	1/12/73	17°27'42	* 52-115	N. M., TUCUMCARI, CONCHAS RES., UTE RES., LOGAN
104°30.9W	35°53.4N	29/ 1/74	17°34'59	76-358	N. M., SPRINGER, CONCHAS LAKE, CANADIAN R., S-10
104°03.5W	35°35.7N	1/12/73	17°27'42	90-088	NEW MEXICO, TUCUMCARI, CONCIYAS RES., CANADIAN R. C-15
104°39.4W	35°56.3N	29/ 1/74	17°34'57	94-103	N. M., WAGON MOUNT, SPRINGER, ROY, CANADIAN R., MORRIS
104°18.0W	35°44.6N	29/ 1/74	17°35'03	94-104	N. M., CANADIAN R., CONCHAS LAKE
104°39.4W	36°00.3N	1/12/73	17°27'32	* 52-114	N. M., LAS VEGAS, CONCHAS RES., CANADIAN R., PHILMONT, C-10
104°50.3W	36°06.4N	1/12/73	17°27'29	90-087	NEW MEXICO, WAGON MOUNT, TURKEN MT., CANADIAN R. C-20
104°43.1W	38°57.5N	30/ 1/74	16°51'09	44-183	COLO., DENVER, COLORADO SPRINGS, PUEBLO, ARKANSAS R., S-40, C-10
104°05.2W	38°35.5N	30/ 1/74	16°51'19	44-184	COLO., COLORADO SPRINGS, PUEBLO, ARKANSAS R., LA JUNTA, S-20, C-10
104°18.3W	38°21.2N	2/12/73	16°43'50	* 52-170	COLO., ARKANSAS R., PUEBLO, COLORADO SPRINGS
104°47.7W	38°59.4N	30/ 1/74	16°51'08	94-160	COLO., PUEBLO WEST, COLORADO SPRINGS, PIKES PEAK, DENVER, C-15, C-60
104°24.9W	38°46.2N	30/ 1/74	16°51'14	94-161	COLO., PUEBLO, COLORADO SPRINGS, ARKANSAS R., S-30
104°02.2W	38°32.5N	30/ 1/74	16°51'20	94-162	COLO., PUEBLO, ARKANSAS R., C-15
104°43.4W	39°20.2N	14/ 1/74	17°01'10	70-120	COLO., CASTLE ROCK, S-90, C-70
104°04.2W	39°41.5N	14/ 1/74	17°01'20	70-121	COLO., S. PLATTE R., S-50, C-70
104°40.1W	39°21.6N	14/ 1/74	17°01'10	93-085	COLO., DENVER, LIMON, CASTLE ROCK, S-100, C-20
104°35.5W	39°23.7N	14/ 1/74	17°01'11	93-086	COLO., DENVER, DEER TRAIL, KIOWA, LIMON, S-100, C-10
104°27.6W	41°27.5N	31/ 1/74	16°07'30	44-332	COLO., NEB., WYO., SCOTTSBLUFF, NORTH PLATTE R., C-80
104°57.9W	41°36.8N	21/ 1/74	20°05'50	64-370	WYO., NEB., COLO., C-100
104°16.4W	41°16.7N	21/ 1/74	20°06'00	64-371	COLO., NEB., WYO., C-100
104°54.6W	41°34.5N	21/ 1/74	20°05'51	92-277	WYO., COLO., C-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
104°27.6W	41°21.5N	21/ 1/74	20°05'57	92-278	WYO., COLO., NEB., C-100
104°05.5W	41°09.6N	21/ 1/74	20°06'03	92-279	NEB., COLO., C-100
104°44.0W	43°35.1N	22/ 1/74	19°22'20	70-249	WYO., S. D., BLACK HILLS CHEYENNE R., S-100, C-20
104°00.2W	43°16.2N	22/ 1/74	19°22'30	70-250	S. D., NEB., WYO., HOT SPRINGS, BLACK HILLS, CHEYENNE R., S-100
104°38.1W	43°32.2N	22/ 1/74	19°22'21	93-135	WYO., S.D., CHEYENNE R., NEW CASTLE
104°10.4W	43°20.2N	22/ 1/74	19°22'27	93-136	WYO., S.D., NEB., EDMONT, HOT SPRINGS, CHEYENNE R., S-100
104°13.7W	45°10.2N	18/ 1/74	20°38'23	70-145	S. D., MONT., WYO., BELLE FOURCHE, BLACK HILLS, LITTLE MISSOURI R.
104°58.9W	45°25.1N	18/ 1/74	20°38'14	92-163	MONTANA, WYO., POWDER R., LITTLE POWDER R., BROADUS, C-20, S-10
104°32.2W	45°15.5N	18/ 1/74	20°38'20	92-164	WYO., S. D., MONT., LITTLE MISSOURI R., BELLE FOURCHE R., C-20, S-10
104°53.3W	46°50.1N	24/ 1/74	17°55'22	70-342	MONT., C-99
104°04.2W	46°35.2N	24/ 1/74	17°55'32	70-343	MONT., N. D., C-100
104°12.1W	47°45.2N	20/ 1/74	19°11'20	70-211	MONT., C-100
104°37.5W	47°54.4N	20/ 1/74	19°11'15	92-234	MONTANA, C-100
103°08.5W	10°00.2N	6/ 1/74	17°51'00	58-321	PACIFIC O. OFF MEXICO, C-40
103°36.8W	17°48.5N	2/12/73	18°25'00	* 52-235	MEXICO (COLIMA-MICHIGAN) PUNTA SAN TELMO
103°45.1W	17°57.1N	2/12/73	18°24'57	90-207	MICHIGAN, PUNTA SAN TELMO
103°29.9W	17°35.2N	2/12/73	18°25'03	90-208	PACIFIC OCEAN OFF MEXICO
103°14.4W	17°21.5N	2/12/73	18°25'09	90-209	PACIFIC OCEAN OFF MEXICO
103°49.3W	20°49.2N	4/ 1/74	19°19'45	91-297	MEXICO (JALISCO), GUADALAJARA, TEQUILA, AMATITAN
103°34.5W	21°06.5N	4/ 1/74	19°19'51	58-299	MEXICO (JALISCO), GUADALAJARA, LAZO CHAPALA, AMATITAN, TEQUILA
103°08.8W	21°35.2N	4/ 1/74	19°20'01	58-300	MEXICO (JALISCO) ZACATECAS, AGUACALIENTES, JUACHIPILA
103°32.9W	21°07.6N	4/ 1/74	19°19'52	91-298	MEXICO (JALISCO), GUADALAJARA, RIO JUACHIPILA
103°17.0W	21°24.7N	4/ 1/74	19°19'58	91-299	MEXICO (JALISCO), JUACHIPILA, TEOCATICHE, RIO JUACHIPILA
103°00.6W	21°42.7N	4/ 1/74	19°20'04	91-300	MEXICO (JALISCO), AGUACALIENTES, AGUACALIENTES, RIO JUACHIPILA
103°23.3W	22°48.2N	3/12/73	17°40'41	* 52-311	ZACATECAS, JALISCO, ZACATECAS, FRESNILLO
103°22.3W	22°44.2N	26/ 1/74	19°47'29	▲ 76-100	MEXICO (ZACATECAS-JALISCO-AGUACALIENTES), ZACATECAS
103°22.6W	22°46.2N	3/12/73	17°40'41	90-276	ZACATECAS-JALISCO, VALPARAISO, JEREZ DE GARCIA SALINAS
103°49.7W	23°15.6N	3/12/73	17°40'31	* 52-310	DURANGO, ZACATECAS, JALISCO, VALPARAISO, FRESNILLO
103°58.2W	23°23.2N	3/12/73	17°40'28	90-275	DURANGO-ZACATECAS-JALISCO, SIERRA MADRE OCCIDENTAL
103°54.6W	27°53.3N	1/ 2/74	17°03'50	48-062	MEXICO (CHIHUAHUA), COAHUILA, LAGUNA DE LOS FRILES, BOLSON DE MAPIM
103°37.9W	27°37.5N	1/ 2/74	17°03'56	48-063	MEXICO (CHIHUAHUA), COAHUILA, LAGUNA DE LOS FRILES, ESMERALDA
103°20.0W	27°21.7N	1/ 2/74	17°04'02	48-064	MEXICO (CHIHUAHUA), COAHUILA, DURANGO, SIERRA DEL TLAHUALILO
103°02.5W	27°05.2N	1/ 2/74	17°04'08	48-065	MEXICO (CHIHUAHUA), COAHUILA, DURANGO, SIERRA DEL TLAHUALILO
103°48.7W	27°46.7N	1/ 2/74	17°03'52	94-255	CHIHUAHUA, COAHUILA, LAGUNA DE LOS FRILES, SIERRA MOJADA
103°29.9W	27°29.2N	1/ 2/74	17°03'58	94-256	COAHUILA, ESMERALDA, EL ORO
103°12.1W	27°13.1N	1/ 2/74	17°04'05	94-257	COAHUILA, SIERRA DEL TLAHUALILO
103°28.9W	30°19.2N	12/ 1/74	16°49'20	64-276	TEX., DAVIS MTS., BALMORHEA LAKE, ALPINE, MARFA, C-45
103°30.2W	31°26.7N	28/ 1/74	18°19'11	A4-036	TEX., N. M., RED BLUFF LAKE, PECOS, PECOS R., FT. STOCKTON
103°57.9W	31°47.3N	28/ 1/74	18°19'02	93-307	TEX., N. M., RED BLUFF LAKE, PECOS R.
103°37.9W	31°31.7N	28/ 1/74	18°19'08	93-308	TEX., N. M., RED BLUFF LAKE, PECOS PECOS R.
103°19.0W	31°16.7N	28/ 1/74	18°19'14	93-309	TEX., PECOS, PECOS R., TOYAH LAKE
103°07.8W	32°30.3N	25/11/73	18°55'55	* 52-010	TEX., N. M., LUBBCK, MIDLAND, MORRIS, PECOS
103°40.8W	32°58.7N	25/11/73	18°55'45	89-010	N. M., TEX., RED BLUFF LAKE, PECOS R., ROSWELL
103°35.2W	33°58.5N	11/ 1/74	17°33'19	92-032	N. M., TEX., CLOVIS, PORTALES, ELIDA
103°16.0W	34°55.3N	1/12/73	17°27'56	90-089	N.M.-TEX., UTE LAKE, LOGAN CANADIAN R., CLOVIS
103°13.7W	34°14.2N	11/ 1/74	17°33'25	92-033	N. M., TEX., CLOVIS, PORTALES, MULESHOE, BOVINA
103°13.1W	34°59.2N	25/ 1/74	17°35'22	94-107	N. M., TEX., UTE LAKE, MESA REDONCO, CLOVIS, GLENRIC
103°55.9W	35°25.2N	25/ 1/74	17°35'09	76-359	N. M., UTE LAKE, CONCHAS LAKE, TUCUMCARI, LOGAN
103°21.7W	35°05.7N	25/ 1/74	17°35'19	76-360	N. M., TEX., UTE LAKE, TUCUMCARI, CLOVIS, PORTALES
103°55.9W	35°28.7N	25/ 1/74	17°35'09	94-105	N. M., CANADIAN R., CONCHAS LAKE TUCUMCARI, UTE LAKE
103°35.2W	35°14.5N	25/ 1/74	17°35'15	94-106	N. M., TEX., TUCUMCARI, UTE LAKE, GLENRIC
103°27.6W	38°13.3N	30/ 1/74	16°51'29	A4-185	COL., LA JUNTA, ARKANSAS R., LAMAR, PURGATOIRE R., S-10, C10
103°34.8W	38°05.2N	2/12/73	16°44'00	* 52-171	COL., ARKANSAS R., LA JUNTA, ORDWAY
103°37.8W	38°18.2N	30/ 1/74	16°51'26	94-163	COL., LA JUNTA, ROCKY FORD, ARKANSAS R., LAS ANIMAS, C-15
103°15.1W	38°04.9N	30/ 1/74	16°51'32	94-164	COL., LAS ANIMAS, LAMAR, ARKANSAS R., PURGATOIRE R., C-10
103°51.3W	35°47.5N	14/ 1/74	17°01'23	93-087	COL., FT. MORGAN, SOUTH PLATTE R., S-100
103°05.8W	40°47.2N	31/ 1/74	16°07'50	A4-334	COL., NEB., WYO., SOUTH PLATTE R., LODGEPOLE CREEK, SIDNEY, C-50
103°34.8W	40°56.3N	21/ 1/74	20°06'10	A4-372	COL., NEB., C-100
103°24.9W	40°43.2N	14/ 1/74	17°01'30	70-122	COL., S. PLATTE BRUSH, FT. MORGAN, S-100, C-70
103°34.5W	40°55.4N	21/ 1/74	20°06'10	92-280	COL., C-100
103°26.6W	40°01.2N	14/ 1/74	17°01'29	93-088	COL., SOUTH PLATTE R., FT. MORGAN, S-100
103°01.2W	40°14.7N	14/ 1/74	17°01'35	93-089	COL., SOUTH PLATTE R., FT. MORGAN, BRUSH, S-100
103°46.4W	41°07.2N	31/ 1/74	16°07'40	A4-333	COL., NEB., WYO., STERLING, SOUTH PLATTE R., NORTH PLATTE R., C-70
103°16.0W	42°58.5N	22/ 1/74	19°22'40	70-251	S. D., NEB., WYO., CHADRON, HOT SPRINGS, CHEYENNE R., S-100
103°41.4W	43°10.1N	22/ 1/74	19°22'34	93-137	WYO., S.D., NEB., CHEYENNE R., CRAWFORD, C-20, S-100
103°28.9W	44°54.4N	18/ 1/74	20°38'33	70-146	S. D., RAPID CITY, BLACK HILLS, BELLE FOURCHE R., DEADWOOD
103°31.9W	44°54.7N	18/ 1/74	20°38'32	92-166	S.D., WYO., BELLE FOURCHE, BELLE FOURCHE R. + RES.
103°03.2W	44°44.3N	18/ 1/74	20°38'39	92-167	S.D., WYO., BELLE FOURCHE R., BELLE FOURCHE RES.
103°57.9W	45°04.5N	18/ 1/74	20°38'26	92-165	S.D., WYO., MONT., BELLE FOURCHE, BELLE FOURCHE R., C-10, S-10

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
103°12.4W	46°23.7N	24/ 1/74	17°55'42	70-344	N. D., C-100
102°44.1W	10°27.0N	6/ 1/74	17°51'10	58-322	PACIFIC O. OFF MEXICO, C-50
102°21.0W	10°56.2N	6/ 1/74	17°51'20	58-323	PACIFIC O. OFF MEXICO, C-65
102°30.2W	21°51.8N	3/12/73	17°41'01	* 52-313	AGUACALIENTES, JALISCO, ZACATECAS, AGUACALIENTES
102°04.2W	21°23.7N	3/12/73	17°41'11	* 52-314	AGUACALIENTES, JALISCO, GUANAJUATO, LEON, AGUACALIENTES
102°29.2W	21°48.1N	26/ 1/74	19°47'49	▲ 76-101	MEXICO (ZACATECAS-AGUACALIENTES-JALISCO) AGUACALIENTES
102°03.2W	21°20.0N	26/ 1/74	19°47'59	▲ 76-102	MEXICO (AGUACALIENTES-JALISCO-SAN LUIS POTOSI-GUANAJUATO)
102°12.1W	21°31.3N	3/12/73	17°41'08	90-278	AGUACALIENTES-JALISCO, AGUACALIENTES
102°14.1W	21°30.7N	26/ 1/74	19°47'55	92-368	MEXICO (JALISCO-AGUACALIENTES) AGUACALIENTES, LAGOS DEMO
102°56.3W	22°15.6N	3/12/73	17°40'51	* 52-312	ZACATECAS, AGUACALIENTES, JALISCO, AGUACALIENTES, ZACATECAS
102°42.4W	22°03.0N	4/ 1/74	19°20'11	58-301	MEXICO (JALISCO ZACATECAS, AGUACALIENTES) AGUACALIENTES, ZACATECAS
102°16.1W	22°30.0N	4/ 1/74	19°20'21	58-302	MEXICO (AGUACALIENTES, ZACATECAS, JALISCO, SAN LUIS POTOSI)
102°47.4W	22°08.5N	3/12/73	17°40'54	90-277	ZACATECAS-AGUACALIENTES-JALISCO, AGUACALIENTES, COLUTLAN
102°44.1W	22°00.0N	4/ 1/74	19°20'10	91-301	MEXICO (AGUACALIENTES-ZACATECAS), AGUACALIENTES, ZACATECAS
102°27.6W	22°17.6N	4/ 1/74	19°20'17	91-302	MEXICO (ZACATECAS), ZACATECAS, SALINAS
102°45.4W	26°45.2N	1/ 2/74	17°04'14	48-066	MEXICO (DURANGO-COAHUILA), SIERRA DEL ALAMITOS
102°28.9W	26°33.4N	1/ 2/74	17°04'20	48-067	MEXICO (COAHUILA), SIERRA MADRE ORIENTAL, CUATROCIENTEGAS
102°11.8W	26°17.1N	1/ 2/74	17°04'26	48-068	MEXICO (COAHUILA NUEVO LEON) PARRAS, SIERRA MADRE ORIENTAL
102°54.0W	26°56.1N	1/ 2/74	17°04'11	94-258	COAHUILA, SIERRA COLORADA, CUATROCIENTEGAS
102°36.8W	26°35.8N	1/ 2/74	17°04'17	94-259	COAHUILA, SIERRA COLORADA, SIERRA DE LA PURISIMA, CUATROCIENTEGAS
102°18.7W	26°22.9N	1/ 2/74	17°04'23	94-260	COAHUILA, SIERRA DE LA PURISIMA, SIERRA DE LOS ALAMITOS
102°01.2W	26°06.0N	1/ 2/74	17°04'29	94-261	COAHUILA, SIERRA DE LOS ALAMITOS, LA LUZ, PIEDRA BLANCA
102°27.6W	30°36.2N	28/ 1/74	18°19'31	A4-038	TEX., FT. STOCKTON, MCCAMEY, RIO GRANDE, BIG BEND NAT. PARK
102°33.2W	30°55.1N	5/12/73	16°12'32	* 52-335	TEX., C-98
102°39.8W	30°45.2N	28/ 1/74	18°19'27	93-311	TEX., FORT STOCKTON, INDEPENDENCE CREEK
102°20.0W	30°29.4N	28/ 1/74	18°19'33	93-312	TEX., MEXICO (COAHUILA) RIO GRANDE, SANDERSON
102°00.6W	30°13.4N	28/ 1/74	18°19'40	93-313	TEX., MEXICO (COAHUILA) RIO GRANDE, PECOS R., SANDERSON
102°58.6W	31°01.5N	28/ 1/74	18°19'21	A4-037	TEX., FT. STOCKTON, PECOS, MONAHANS, MCCAMEY
102°03.5W	31°26.7N	25/11/73	18°56'15	* 52-011	TEX., MEXICO (COAHUILA), BIG BEND, SAN ANGELO, MIDLAND, ODESSA
102°26.9W	31°11.4N	12/ 1/74	16°49'40	89-012	TEX., LUBBOCK, PECOS R., MIDLAND, ODESSA, FT. STOCKTON
102°14.7W	31°34.2N	25/11/73	18°56'12	93-310	TEX., FORT STOCKTON, PECOS R.
102°58.9W	31°00.5N	28/ 1/74	18°19'21	93-310	TEX., FORT STOCKTON, PECOS R.
102°56.6W	32°15.7N	25/11/73	18°55'59	89-011	TEX., N. M., PECOS R., PECOS, HOBBS MONAHANS, ODESSA, MIDLAND
102°55.0W	34°48.1N	1/12/73	17°28'02	* 52-116	N. M., TEX., CLOVIS, HEREFORD, SAN JON, MULESHOE
102°47.4W	34°41.7N	25/ 1/74	17°35'29	76-361	N. M., TEX., MULESHOE, CLOVIS, HEREFORD, DIMMITT
102°13.4W	34°17.8N	25/ 1/74	17°35'39	76-362	TEX., HEREFORD, LUBBOCK, LITTLEFIELD, PLAINVIEW
102°32.2W	34°30.6N	1/12/73	17°28'09	90-090	TEXAS, MULESHOE, HEREFORD, DIMMITT
102°53.6W	34°28.8N	11/ 1/74	17°33'31	92-034	N. M., TEX., CLOVIS, MULESHOE, BURNING WATER CREEK, C-15
102°33.2W	34°43.3N	11/ 1/74	17°33'37	92-035	TEX., ERLONA, TIERRA BLANCA CREEK, C-6C
102°11.5W	34°56.7N	11/ 1/74	17°33'44	92-036	TEX., PANHANDLE AREA, C-90
102°52.3W	34°44.2N	25/ 1/74	17°35'28	94-108	N. M., TEX., CLOVIS, HEREFORD, BOLINA, DIMMITT
102°30.2W	34°29.2N	25/ 1/74	17°35'34	94-109	TEX., HEREFORD, DIMMITT, OLTON, MULESHOE, NAZARETH
102°09.5W	34°13.3N	25/ 1/74	17°35'41	94-110	TEX., PLAINVIEW, LITTLEFIELD, OLTON, ABERNATHY
102°49.7W	37°50.5N	30/ 1/74	16°51'39	A4-186	COLOR., KAN., N. M., OKLA., ARKANSAS R., SPRINGFIELD, SYRACUSE, C-10
102°13.1W	37°28.0N	30/ 1/74	16°51'49	A4-187	COLOR., KAN., OKLA., N. M., TEX., CIMARRON R., BOISE CITY, S-10, C-10
102°51.7W	37°45.4N	2/12/73	16°44'10	* 52-172	COLOR., KAN., OKLA., ARKANSAS R., LAMAR, PLUGATOURIE P., LA JUNTA
102°13.8W	37°32.4N	2/12/73	16°44'20	* 52-173	OKLA., COLOR., KAN., ARKANSAS R., CIMARRON R., SPRINGFIELD
102°49.7W	37°45.6N	30/ 1/74	16°51'39	94-165	COLOR., LAMAR, SPRINGFIELD, ARKANSAS R.
102°26.3W	37°35.4N	30/ 1/74	16°51'45	94-166	COLOR., OKLA., KAN., LAMAR, ARKANSAS R., SPRINGFIELD
102°03.2W	37°20.5N	30/ 1/74	16°51'52	94-167	COLOR., OKLA., KAN., CIMARRON R., HOGTON, ELKHART
102°25.6W	40°26.3N	31/ 1/74	16°08'00	A4-335	KAN., NEB., COLOR., S. PLATTE R., LODGEPOLE CREEK, JULESBURG, C-30
102°55.0W	40°35.7N	21/ 1/74	20°06'20	64-373	KAN., NEB., COLOR., C-10C
102°15.1W	40°14.7N	21/ 1/74	20°06'30	64-374	KAN., NEB., COLOR., C-10C
102°45.1W	40°24.0N	14/ 1/74	17°01'40	70-123	COLOR., NEB., S. PLATTE R., STERLING, S-100, C-80
102°05.2W	40°44.7N	14/ 1/74	17°01'50	70-124	COLOR., NEB., S. PLATTE R., N. PLATTE R., LAKE MCCONAUGHY, S-103, C-70
102°36.5W	40°27.6N	14/ 1/74	17°01'42	93-090	COLOR., SOUTH PLATTE R., STERLING, AKRON, S-100
102°11.1W	40°40.8N	14/ 1/74	17°01'48	93-091	NEB., COLOR., N. + S. PLATTE, JULESBURG, HOLYOKE, S-100
102°42.8W	44°37.8N	18/ 1/74	20°38'43	70-147	S. D., RAPID CITY, BLACK HILLS, BADLANDS, BELLE FOURCHE R.
102°34.9W	44°34.1N	18/ 1/74	20°38'45	92-168	S.D., CHEYENNE R., BELLE FOURCHE R., UNION CENTER
102°05.9W	44°23.1N	18/ 1/74	20°38'51	92-169	S.D., CHEYENNE R., BELLE FOURCHE R., BADLANDS
102°24.6W	46°08.1N	24/ 1/74	17°55'52	70-345	N. D., S. D. C-100
102°28.6W	47°25.8N	20/ 1/74	19°11'40	70-212	MONT., C-100
102°52.6W	47°30.6N	20/ 1/74	19°11'36	92-235	MONTANA, C-100
101°55.6W	0°03.5S	8/ 1/74	16°22'30	64-056	PACIFIC O., SW OF CENTRAL AMERICA, C-80
101°29.6W	0°26.2N	8/ 1/74	16°22'40	64-057	PACIFIC O. SW OF CENTRAL AMERICA, C-70
101°04.5W	0°56.0N	8/ 1/74	16°22'50	64-058	PACIFIC O. SW OF CENTRAL AMERICA, C-70
101°34.5W	0°19.3N	8/ 1/74	16°22'38	89-246	PACIFIC O. OFF CENTRAL AMERICA, C-6C
101°18.7W	0°38.1N	8/ 1/74	16°22'44	89-247	PACIFIC O. OFF CENTRAL AMERICA, C-5C
101°03.2W	0°56.3N	8/ 1/74	16°22'50	89-248	PACIFIC O. OFF CENTRAL AMERICA, C-50
101°55.6W	5°46.7N	7/ 1/74	17°07'00	64-001	OBLIQUE, OVEREXPOSED, CLOUDS, WATER
101°59.9W	11°27.2N	6/ 1/74	17°51'30	58-324	PACIFIC O. OFF MEXICO, C-40
101°39.2W	11°58.7N	6/ 1/74	17°51'40	58-325	PACIFIC O. OFF MEXICO, C-20
101°18.4W	12°30.1N	6/ 1/74	17°51'50	58-326	PACIFIC O. OFF MEXICO, C-10
101°38.2W	20°55.7N	3/12/73	17°41'21	* 52-315	JALISCO, GUANAJUATO, LEON, IRAPUATO, GUANAJUATO

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
101°12.8W	20°27.7N	3/12/73	17°41'31	* 52-316	GUANAJUATO, MICHOACAN, QUERETARO, GUANAJUATO, QUERETARO
101°37.2W	20°51.8N	26/ 1/74	19°48'09	▲ 76-103	MEXICO (JALISCO-GUANAJUATO, SAN LUIS POTOSI-QUERETARO), LENON, C-15
101°11.5W	20°23.6N	26/ 1/74	19°48'19	▲ 76-104	MEXICO (QUERETARO-GUANAJUATO), LAGO CUTZEO, GUANAJUATO, CELAYA, C-30
101°37.2W	20°53.4N	3/12/73	17°41'21	90-279	JALISCO-GUANAJUATO, LEON, LAGOS DE MORENO
101°02.6W	20°15.5N	3/12/73	17°41'35	90-280	GUANAJUATO-MICHOACAN, TRAPUATO, LAGO DE CUTLEO, MORELIA
101°18.4W	22°25.4N	27/ 1/74	19°04'38	94-037	SAN LUIS, POTOSI STATE, SAN LUIS POTOSI
101°37.8W	25°44.3N	1/ 2/74	17°04'38	48-070	MEXICO (COAHUILA NUEVO LEON ZACATECAS) SALTILLO, SIERRA MADRE ORIENTAL
101°21.0W	25°27.8N	1/ 2/74	17°04'44	48-071	MEXICO (COAHUILA NUEVO LEON ZACATECAS) SALTILLO, SIERRA MADRE ORIENTAL
101°04.2W	25°11.5N	1/ 2/74	17°04'50	48-072	MEXICO (COAHUILA NUEVO LEON ZACATECAS) SALTILLO, SIERRA MADRE ORIENTAL
101°43.8W	25°48.5N	1/ 2/74	17°04'36	94-262	COAHUILA, GENERAL CEPEDA, PIEDRA BLANCA
101°26.6W	25°32.4N	1/ 2/74	17°04'42	94-263	COAHUILA, SALTILLO, GENERAL CEPEDA, SIERRA MADRE ORIENTAL
101°08.5W	25°14.8N	1/ 2/74	17°04'48	94-264	COAHUILA, NUEVO LEON, SALTILLO, SIERRA MADRE ORIENTAL
101°54.6W	26°00.4N	1/ 2/74	17°04'32	48-069	MEXICO (COAHUILA NUEVO LEON) PARRAS, SIERRA MADRE ORIENTAL
101°41.1W	29°57.3N	28/ 1/74	18°19'46	93-314	TEX., MEXICO (COAHUILA) LANGTRY, RIO GRANDE
101°22.3W	29°41.4N	28/ 1/74	18°19'52	93-315	TEX., MEXICO (COAHUILA) AMISTAD LAKE, RIO GRANDE
101°02.9W	29°25.3N	28/ 1/74	18°19'58	93-316	TEX., MEXICO (COAHUILA) AMISTAD LAKE, DEL RIO, VILLA ACUNA
101°56.6W	30°11.1N	28/ 1/74	18°19'41	A4-039	TEX., COAHUILA, RIO GRANDE, BIG BEND NAT. PARK, PECOS R.
101°00.9W	30°03.2N	29/11/73	18°56'35	* 52-012	TEX., MEXICO (COAHUILA), AMISTAD RES., SAN ANGELO, EDWARDS PLATEAU
101°31.6W	30°50.8N	29/11/73	18°56'25	89-013	TEX., MEXICO (COAHUILA), RIO GRANDE, PECOS R., OZUNA
101°24.3W	32°02.2N	12/ 1/74	16°50'00	64-278	TEX., BIG SPRING, LAKE THOMAS, LA MESA, C-35
101°48.1W	33°59.5N	1/12/73	17°28'22	* 52-117	TEX., LUBBOCK, PLAINVIEW, MULESHOE, LEVELLAND
101°39.8W	33°52.7N	29/ 1/74	17°35'49	76-363	TEX., LUBBOCK, PLAINVIEW, LEVELLAND, PRAIRIE DOG TOWN FORK
101°06.2W	33°28.5N	25/ 1/74	17°35'59	76-364	TEX., LUBBOCK, CAPROCK ESCARPMENT, BRAZOS R., BORDEN
101°44.4W	33°55.5N	1/12/73	17°28'23	90-091	TEXAS, LUBBOCK, PLAINVIEW, EARTH, TULIA, FLOYDADA
101°48.7W	33°58.2N	25/ 1/74	17°35'47	94-111	TEX., LUBBOCK, PLAINVIEW, FLOYDADA, LITTLEFIELD
101°27.6W	33°43.3N	25/ 1/74	17°35'53	94-112	TEX., LUBBOCK, CROSBYTON, SPUR, SLATON, POST, CAPROCK ESCARPMENT
101°06.5W	33°27.7N	29/ 1/74	17°35'59	94-113	TEX., CAPROCK ESCARPMENT, POST, SPUR
101°50.4W	35°13.5N	11/ 1/74	17°33'50	92-037	TEX., PANHANDLE AREA, C-100
101°29.3W	35°28.2N	11/ 1/74	17°33'50	92-038	TEX., PANHANDLE AREA, C-100
101°05.5W	35°44.3N	11/ 1/74	17°34'03	92-039	TEX., PANHANDLE AREA, C-100
101°00.6W	36°42.6N	30/ 1/74	16°52'09	A4-189	KAN., OKLA., TEX., LIBERAL, CIMARRON R., CANADIAN R., C-55
101°04.2W	36°47.4N	2/12/73	16°44'40	* 52-175	OKLA., TEX., KAN., LIBERAL, CIMARRON R., N. CANADIAN R.
101°16.1W	36°52.5N	2/12/73	16°44'38	90-140	KAN.-OKLA., LIBERAL
101°04.5W	36°43.8N	30/ 1/74	16°52'08	94-169	KAN., OKLA., TEX., LIBERAL, GUYMON, N. CANADIAN R., C-30, S-10
101°36.8W	37°04.5N	30/ 1/74	16°51'59	A4-188	KAN., OKLA., TEX., LIBERAL, CIMARRON R., LLYSSES, C-25
101°46.7W	37°11.6N	2/12/73	16°44'30	* 52-174	OKLA., TEX., KAN., CIMARRON R., LIBERAL, GUYMON
101°40.8W	37°06.7N	30/ 1/74	16°51'58	94-168	COLU., OKLA., KAN., TEX., GUYMON, HUGOTON, HOOKER, C-10
101°07.2W	39°43.4N	31/ 1/74	16°08'20	A4-337	KAN., NEB., MCCOOK, REPUBLICAN R., C-40
101°34.9W	39°53.8N	21/ 1/74	20°06'40	64-375	KAN., NEB., C-100
101°46.1W	40°05.2N	31/ 1/74	16°08'10	A4-336	KAN., NEB., ST. FRANCIS, REPUBLICAN R., MCCOOK, C-20
101°45.7W	40°53.6N	14/ 1/74	17°01'54	93-092	NEB., COLO., LAKE MCCONAUGHY, OGALLALA, N. + S. PLATTE, S-100
101°24.7W	41°05.2N	14/ 1/74	17°02'00	70-125	NEB., COLC., PLATTE R., LAKE MCCONALGHY, N. PLATTE, S-100, C-30
101°21.0W	41°06.2N	14/ 1/74	17°02'00	93-093	NEB., PLATTE R., N. PLATTE, LAKE MCCONAUGHY, S-100
101°50.0W	42°20.6N	22/ 1/74	19°23'00	70-252	NEB., S. D., SAND HILL COUNTRY, ALLIANCE, NIOBRARA R., S-100
101°20.0W	44°07.4N	30/11/73	16°33'00	* 52-041	S. D., BAD R., WHITE R.
101°56.6W	44°20.6N	18/ 1/74	20°38'53	70-148	S. D., BADLAND, BELLE FOURCHE R., DAHE RES., WHITE R.
101°11.1W	44°03.3N	18/ 1/74	20°39'03	70-149	S. D., BADLANDS, DAHE RES., WHITE R., PIERRE, MISSOURI R.
101°37.2W	44°12.5N	18/ 1/74	20°38'57	92-170	S.C., CHEYENNE R., BAD R., BADLANDS
101°09.2W	44°01.8N	18/ 1/74	20°39'04	92-171	S.C., BAD R., WHITE R., BADLANDS
101°36.5W	45°52.9N	24/ 1/74	17°56'02	70-346	N. D., S. D. C-100
101°44.4W	47°15.3N	20/ 1/74	19°11'49	92-236	N. D., C-95
100°39.8W	1°25.7N	8/ 1/74	16°23'00	64-059	PACIFIC O. SW OF CENTRAL AMERICA, C-70
100°15.8W	1°55.5N	8/ 1/74	16°23'10	64-060	PACIFIC O. SW OF CENTRAL AMERICA, C-80
100°47.7W	1°14.8N	8/ 1/74	16°22'56	89-249	PACIFIC O. OFF CENTRAL AMERICA, C-7C
100°32.6W	1°33.3N	8/ 1/74	16°23'03	89-250	PACIFIC O. OFF CENTRAL AMERICA, C-5C
100°17.7W	1°51.5N	8/ 1/74	16°23'09	89-251	PACIFIC O. OFF CENTRAL AMERICA, C-85
100°02.3W	2°11.0N	8/ 1/74	16°23'15	89-252	PACIFIC O. OFF CENTRAL AMERICA, C-85
100°04.2W	13°34.5N	2/12/73	18°26'28	* 52-236	PACIFIC O. OFF MEXICO, C-20
100°57.3W	13°01.6N	6/ 1/74	17°52'00	58-327	PACIFIC O. OFF MEXICO,
100°36.2W	13°32.8N	6/ 1/74	17°52'10	58-328	PACIFIC O. OFF MEXICO,
100°13.5W	14°02.8N	6/ 1/74	17°52'20	58-329	PACIFIC O. OFF MEXICO,
100°46.7W	19°55.8N	3/12/73	17°41'41	* 52-317	GUANAJUATO, MICHOACAN, QUERETARO, QUERETARO, MORELIA
100°21.4W	19°30.5N	3/12/73	17°41'51	* 52-318	MICHOACAN, QUERETARO, MEXICO, TOLUCA, MORELIA, ZITACUARO
100°45.8W	19°55.3N	26/ 1/74	19°48'29	▲ 76-105	MEXICO (MICHOACAN-GUANAJUATO-QUERETARO), LAGO CUTZEO, QUERETARO
100°20.4W	19°26.6N	26/ 1/74	19°48'39	▲ 76-106	MEXICO (MEXICO-MICHOACAN-QUERETARO), MEXICO CITY, TOLUCA, EL CRO
100°28.6W	19°37.6N	3/12/73	17°41'48	90-281	GUANAJUATO-MICHOACAN, QUERETARO-MEXICO, ZITACUARO
100°38.8W	19°46.4N	26/ 1/74	19°48'32	92-370	MEXICO, (MICHOACAN-GUANAJUATO) ACAPULCO, LAGO CUTZEO, C-40
100°23.0W	19°28.6N	26/ 1/74	19°48'38	92-371	MEXICO, (MICHOACAN-MEXICO) GUANAJUATO, RIO CURACUALIC, C-40
100°06.9W	19°10.3N	26/ 1/74	19°48'45	92-372	MEXICO, (MEXICO-MICHOACAN-GUERRERO), RIO TUPAN, C-40
100°54.7W	20°04.8N	26/ 1/74	19°48'26	92-369	MEXICO (MICHOACAN GUANAJUATO) MORELIA, LAGO CUTZEO

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
100°37.9W	21°56.6N	27/ 1/74	19°04'50	94-039	SAN LUIS POTOSI, SAN LUIS POTOSI, VILLA DEL REYES
100°19.1W	21°42.6N	27/ 1/74	19°04'56	94-040	SAN LUIS POTOSI, SANTA MARIA DEL RIO
100°58.0W	22°10.7N	27/ 1/74	19°04'44	94-038	SAN LUIS POTOSI, SAN LUIS POTOSI, SANTA MARIA DEL RIO
100°47.7W	24°55.2N	1/ 2/74	17°04'56	48-073	MEXICO (COAHUILA) NUEVO LEON, ZACATECAS) SALTILLO, SIERRA MADRE ORIENTAL
100°31.6W	24°38.7N	1/ 2/74	17°05'02	48-074	MEXICO (COAHUILA) NUEVO LEON, SAN LUIS POTOSI) SIERRA MADRE ORIENTAL
100°15.1W	24°22.4N	1/ 2/74	17°05'08	48-075	MEXICO (COAHUILA) NUEVO LEON, SAN LUIS POTOSI) SIERRA MADRE ORIENTAL
100°51.0W	24°57.5N	1/ 2/74	17°04'55	94-265	COAHUILA, NUEVO LEON, SALTILLO, SIERRA MADRE ORIENTAL, SAN RAFAEL
100°33.9W	24°40.2N	1/ 2/74	17°05'01	94-266	COAHUILA, NUEVO LEON, SIERRA MADRE ORIENTAL, SAN SALVADOR, C-13
100°16.8W	24°23.6N	1/ 2/74	17°05'07	94-267	NUEVO LEON, SIERRA MADRE ORIENTAL, ASCENSION, C-10
100°00.0W	24°06.1N	1/ 2/74	17°05'13	94-268	NUEVO LEON, TAMAULIPAS, ASCENSION, SIERRA MADRE ORIENTAL
100°01.9W	28°45.1N	5/12/73	16°13'22	* 52-336	TEX., MEXICO (COAHUILA), EAGLE PASS, UVALDE, COTULLA
100°25.7W	28°53.1N	28/ 1/74	18°20'11	93-318	TEX., MEXICO (COAHUILA) EAGLE PASS, PIEDRAS NEGRAS, RIO GRANDE
100°07.5W	28°37.3N	28/ 1/74	18°20'17	93-319	TEX., MEXICO (COAHUILA) EAGLE PASS, PIEDRAS NEGRAS, RIO GRANDE
100°55.6W	29°15.6N	28/ 1/74	18°20'01	A4-040	TEX., COAHUILA, RIO GRANDE, AMISTAD LAKE, DEL RIO, EAGLE PASS
100°00.0W	29°15.6N	29/11/73	18°56'55	* 52-013	MEXICO (COAHUILA), DEL RIO, AMISTAD RES., SAN ANTONIO
100°08.8W	29°25.5N	29/11/73	18°56'52	89-015	TEX., MEXICO (COAHUILA), DEL RIO, EAGLE PASS, RIO GRANDE
100°44.8W	29°05.5N	28/ 1/74	18°20'04	93-317	TEX., MEXICO (COAHUILA) AMISTAD LAKE, DEL RIO, VILLA ACUNA
100°49.7W	30°06.6N	29/11/73	18°56'39	89-014	TEX., MEXICO (COAHUILA), AMISTAD RES., DEL RIO, SAN ANGELO
100°09.5W	32°45.5N	1/12/73	17°28'52	* 52-119	TEX., ABELINE, ANSON, CLEAR FORK OF BRAZOS, BUFFALO GAP
100°19.7W	32°52.4N	12/ 1/74	16°50'20	64-279	TEX., ABELINE, SWEETWATER, SNYDER, BRAZOS R., C-15
100°00.9W	32°38.5N	29/ 1/74	17°36'19	76-366	TEX., ABELINE, BUFFALO GAP, SWEETWATER, COLCRAU CITY
100°25.7W	32°57.2N	29/ 1/74	17°36'12	94-115	TEX., SNYDER, SWEETWATER, HAMLIN, ANSON
100°05.6W	32°41.6N	29/ 1/74	17°36'18	94-116	TEX., ABELINE, SWEETWATER, STAMFORD, ANSON, BUFFALO GAP
100°41.8W	33°10.4N	1/12/73	17°28'42	* 52-118	TEX., BRAZOS FORKS, PEASE R., SPUR, ASPERMONT
100°33.2W	33°04.1N	29/ 1/74	17°36'09	76-365	TEX., BRAZOS R., SNYDER, ASPERMONT, SPUR
100°45.8W	33°12.5N	29/ 1/74	17°36'05	94-114	TEX., SNYDER, ASPERMONT, ROTAN
100°44.1W	35°58.6N	11/ 1/74	17°34'09	92-040	TEX., OKLA., CANADIAN R., C-7C, S-2C
100°25.0W	36°18.5N	30/ 1/74	16°52'19	A4-190	KAN., TEX., OKLA., CANADIAN R., LAVERNE, CANADIAN, C-70
100°17.1W	36°24.7N	2/12/73	16°44'50	* 52-176	OKLA., TEX., KAN., CANADIAN R., N. CANADIAN R., LIMAPRON R.
100°47.7W	36°38.7N	2/12/73	16°44'44	90-141	KAN.-OKLA., LIBERAL, CUYMON, BEAVER, CIMARRON R.
100°18.4W	36°24.4N	2/12/73	16°44'50	90-142	OKLA.-TEX.-KAN., CANADIAN, SHATTUCK, LAVERNE
100°22.0W	36°13.6N	11/ 1/74	17°34'15	92-041	TEX., OKLA., CANADIAN R., SHATTUCK, C-40, S-50
100°00.0W	36°28.1N	11/ 1/74	17°34'21	92-042	TEX., OKLA., KAN., WOODWARD, N. CANADIAN R., LAVERNE, C-15, S-75
100°17.1W	36°13.6N	30/ 1/74	16°52'21	94-170	OKLA., TEX., CANADIAN R., C-7C
100°32.2W	39°17.4N	31/ 1/74	16°08'30	A4-338	KAN., NEB., NORTON, PRAIRIE DOG CREEK, C-50
100°54.7W	39°32.7N	21/ 1/74	20°06'50	64-376	KAN., C-100
100°15.4W	39°11.1N	21/ 1/74	20°07'00	64-377	KAN., C-96
100°43.5W	41°25.3N	14/ 1/74	17°02'10	70-126	NEB., PLATTE R., N. PLATTE, S. LOUP R., S-100, C-30
100°02.3W	41°45.2N	14/ 1/74	17°02'20	70-127	NEB., MIDDLE LOUP R., N. LOUP R., NIMBARA R., S-100, C-30
100°25.7W	41°41.4N	22/ 1/74	19°23'20	70-253	NEB., N. PLATTE R., S. PLATTE R., N. PLATTE, S-100
100°56.0W	41°18.4N	14/ 1/74	17°02'06	93-094	NEB., PLATTE R., N. PLATTE, SAND HILLS, S-100
100°30.3W	41°30.5N	14/ 1/74	17°02'13	93-095	NEB., PLATTE R., DISMAL R., SAND HILLS, S-100
100°03.6W	41°43.7N	14/ 1/74	17°02'19	93-096	NEB., MIDDLE LOUP R., SAND HILLS, S-100
100°35.5W	43°50.6N	30/11/73	16°33'10	* 52-042	S. D., BADLANDS, WHITE R., MISSOURI R.
100°26.3W	43°45.7N	18/ 1/74	20°39'13	70-150	S. C., NEB., PIERRE, MISSOURI R., OAHU RES., WHITE R., FT. RANDALL RES
100°45.1W	43°53.4N	30/11/73	16°33'08	90-001	SOUTH DAKOTA, BADLANDS, BIG WHITE R.
100°17.4W	43°42.4N	30/11/73	16°33'14	90-002	SOUTH DAKOTA, BIG WHITE R., MURDO
100°41.5W	43°51.6N	18/ 1/74	20°39'10	92-172	S.C., WHITE R., BAD R.
100°13.5W	43°35.7N	18/ 1/74	20°39'16	92-173	S.C., MISSOURI R., WHITE R.
100°49.4W	45°36.6N	24/ 1/74	17°56'12	70-347	N. D., S. D. C-100
100°01.9W	45°20.8N	24/ 1/74	17°56'22	70-348	N. D., N. D., C-90
100°36.9W	46°57.5N	20/ 1/74	19°12'02	92-237	N. D., C-100
100°45.4W	47°00.6N	20/ 1/74	19°12'00	70-213	MONT., C-100
99°52.0W	2°25.5N	8/ 1/74	16°23'20	64-061	PACIFIC O. SW OF CENTRAL AMERICA, C-90
99°28.0W	2°55.6N	8/ 1/74	16°23'30	64-062	PACIFIC O. SW OF CENTRAL AMERICA, C-95
99°47.4W	2°30.6N	8/ 1/74	16°23'21	89-253	PACIFIC O. OFF CENTRAL AMERICA, C-90
99°31.9W	2°48.5N	8/ 1/74	16°23'28	89-254	PACIFIC O. OFF CENTRAL AMERICA, C-100
99°02.9W	3°23.7N	8/ 1/74	16°23'40	64-063	PACIFIC O. SW OF CENTRAL AMERICA, C-50
99°16.8W	3°06.5N	8/ 1/74	16°23'34	89-255	PACIFIC O. OFF CENTRAL AMERICA, C-95
99°01.0W	3°24.7N	8/ 1/74	16°23'40	89-256	PACIFIC O. OFF CENTRAL AMERICA, C-50
99°39.5W	8°46.6N	7/ 1/74	17°08'00	64-002	PACIFIC O. SOUTH OF MEXICO, C-12
99°16.8W	9°15.3N	7/ 1/74	17°08'10	64-003	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
99°22.0W	9°07.4N	7/ 1/74	17°08'07	89-167	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-10
99°07.5W	9°26.1N	7/ 1/74	17°08'14	89-168	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-15
99°49.4W	14°31.6N	6/ 1/74	17°52'30	58-330	PACIFIC O. OFF MEXICO,
99°25.0W	15°00.4N	6/ 1/74	17°52'40	58-331	PACIFIC O. OFF MEXICO,
99°01.0W	15°25.3N	6/ 1/74	17°52'50	58-332	PACIFIC O. OFF MEXICO,
99°04.6W	17°55.4N	26/ 1/74	19°49'10	92-376	MEXICO, (GUERRERO-RIO MEZCATI), SIERRA MADRE DEL SUR, C-25
99°31.3W	18°34.6N	3/12/73	17°42'11	* 52-320	MEXICO, MORELOS, GUERRERO, CUERNAVACA, MEXICO CITY, ICUALA, TAXCO
99°05.9W	18°05.6N	3/12/73	17°42'21	* 52-321	MORELOS, PUEBLA, GUERRERO, ICUALA, RIO MEXCALA

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
99°55.3W	18°58.4N	26/ 1/74	19°48'49	▲ 76-107	MEXICO (MEXICO-MORELOS-GUERRERO) CUERNAVACA MEXICO CITY, TAXCO
99°30.3W	18°29.9N	26/ 1/74	19°48'59	▲ 76-108	MEXICO (MEXICO-MORELOS-GUERRERO) MEXICO CITY, TAXCO, IGUALA, C-30
99°05.2W	18°01.2N	26/ 1/74	19°49'09	▲ 76-109	MEXICO (GUERRERO-MORELOS-PUEBLA), IGUALA, CHILPANCIAGO, C-30
99°55.0W	18°59.5N	3/12/73	17°42'01	90-282	MEXICO-MICHOACAN-GUERRERO-MORELOS, TOLUCA, CUERNAVACA
99°21.4W	18°21.6N	3/12/73	17°42'15	90-283	GUERRERO-MORELOS-MEXICO, IGUALA, RIO BALSA, TAXCO
99°51.4W	18°53.0N	26/ 1/74	19°48'51	92-373	MEXICO, (GUERRERO-MORELOS-MEXICO), TOLUCA VOLCANG, C-40
99°35.6W	18°35.0N	26/ 1/74	19°48'57	92-374	MEXICO, (GUERRERO-MORELOS-MEXICO), IGUALA, CUERNAVACA, C-25
99°20.1W	18°17.2N	26/ 1/74	19°49'03	92-375	MEXICO, (GUERRERO-MORELOS-PUEBLA), IGUALA, TAXCO, C-25
99°56.3W	19°02.4N	3/12/73	17°42'01	* 52-319	MEXICO, MORELOS, GUERRERO, MEXICO CITY, CUERNAVACA, TOLUCA
99°42.2W	23°49.3N	1/ 2/74	17°05'20	48-077	MEXICO (NUEVO LEON-TAMAULIPAS) CIUDAD VICTORIA, RIO BLANCO, C-10
99°26.3W	23°32.8N	1/ 2/74	17°05'26	48-078	MEXICO (NUEVO LEON-TAMAULIPAS) CIUDAD VICTORIA, C-20
99°10.2W	23°16.1N	1/ 2/74	17°05'32	48-079	MEXICO (NUEVO LEON-TAMAULIPAS) CIUDAD VICTORIA, C-40
99°43.5W	23°49.3N	1/ 2/74	17°05'19	94-269	NUEVO LEON, TAMAULIPAS, CIUDAD VICTORIA, SIERRA MADRE ORIENTAL
99°26.3W	23°31.8N	1/ 2/74	17°05'26	94-270	NUEVO LEON, TAMAULIPAS, CIUDAD VICTORIA, TULA, C-15
99°09.9W	23°14.7N	1/ 2/74	17°05'32	94-271	TAMAULIPAS, CIUDAD VICTORIA, TULA, SIERRA MADRE ORIENTAL, C-50
99°58.3W	24°05.6N	1/ 2/74	17°05'14	48-076	MEXICO (NUEVO LEON-SAN LUIS POTOSI-TAMAULIPAS) SIERRA MADRE ORIENTAL
99°21.7W	25°44.5N	14/ 1/74	15°22'30	70-001	MEXICO, C-95
99°03.9W	27°51.7N	5/12/73	16°13'42	91-001	TEX., LAREDO, ENCINAL, FREER, OILTON
99°11.5W	27°47.6N	28/ 1/74	18°20'36	93-322	TEX., MEXICO (N. LEON-TAMAULIPAS) NUEVO LAREDO, LAREDO, RIO GRANDE
99°55.7W	28°27.5N	28/ 1/74	18°20'21	44-041	TEX., COAHUILA, FOGLE PASS, CARRIZO SPGS, UVALDE, RIO GRANDE
99°28.3W	28°43.1N	29/11/73	18°57'06	89-016	TEX., MEXICO (COAHUILA), NUEVO LEON, SAN ANTONIO, COTULLA
99°48.7W	28°20.4N	28/ 1/74	18°20'23	93-320	TEX., MEXICO (COAHUILA) ASHERTON, CARRIZO SPGS, RIO GRANDE
99°30.3W	28°04.6N	28/ 1/74	18°20'29	93-321	TEX., MEXICO (COAHUILA-N. LEON-TAMAULIPAS) RIO GRANDE, LAREDO
99°04.6W	31°54.6N	1/12/73	17°29'12	* 52-121	TEX., BROWNWOOD, COLEMAN, BRAZOS R., DUBLIN
99°05.2W	31°54.1N	25/ 1/74	17°36'37	94-119	TEX., BROWNWOOD, COMANCHE, GOLDTHWAITE, SANTA ANNA
99°37.5W	32°20.5N	1/12/73	17°29'02	* 52-120	TEX., ABILENE, BUFFALO GAP, BROWNWOOD LAKE, CISCO, BRAZOS R.
99°29.0W	32°13.5N	29/ 1/74	17°36'29	76-367	TEX., ABILENE, BROWNWOOD, COLEMAN, RECKENRIDGE
99°45.1W	32°25.7N	25/ 1/74	17°36'24	94-117	TEX., ABILENE, BUFFALO GAP, CISCO
99°25.0W	32°09.7N	29/ 1/74	17°36'31	94-118	TEX., ABILENE, COLEMAN, BROWNWOOD, BROWNWOOD LAKE
99°14.5W	33°42.0N	12/ 1/74	16°50'40	64-280	TEX., CKLA., RED R., WICHITA FALLS, VERNON, SEYMOUR
99°50.1W	35°55.2N	30/ 1/74	16°52'29	A4-191	OKLA., TEX., CANADIAN R., ELK CITY, CLINTON, C-65
99°14.8W	35°32.3N	30/ 1/74	16°52'39	A4-192	OKLA., CANADIAN R., ANADARKO, WICHITA MTS., C-40
99°03.9W	35°37.5N	2/12/73	16°45'10	* 52-178	OKLA., CANTON RES., EL RENO, CANADIAN R.
99°33.6W	35°57.2N	2/12/73	16°45'02	90-144	OKLA.-TEX.CANADIAN R., WOODWARD, FOSS RES., ELK CITY
99°12.5W	35°42.8N	2/12/73	16°45'08	90-145	OKLAHOMA, WEATHERFORD, CLINTON, CANADIAN R., THOMAS
99°30.0W	35°41.0N	30/ 1/74	16°52'35	94-171	OKLA., CANADIAN R., CLINTON, S-60
99°39.2W	36°01.6N	2/12/73	16°45'00	* 52-177	OKLA., TEX., CANADIAN R., FT. SLOPPY, ELK CITY, CANTON RES.
99°55.0W	36°11.0N	2/12/73	16°44'56	90-143	OKLA.-TEX., CANADIAN R., SHATTUCK, FT. SUPPLY, WOODWARD
99°36.9W	36°43.0N	11/ 1/74	17°34'28	92-043	OKLA., KAN., WOODWARD, N. CANADIAN R., CIMARRON R., S-90
99°14.8W	36°57.3N	11/ 1/74	17°34'34	92-044	OKLA., KAN., CIMARRON R., SALT FORK, GOLDWATER, S-100
99°53.7W	38°55.5N	31/ 1/74	16°08'40	A4-339	KAN., HAYS, RUSSELL, SMOKY HILL R., C-65
99°15.8W	38°33.6N	31/ 1/74	16°08'50	A4-340	KAN., SMOKY HILL R., RUSSELL, HAYS, C-70
99°37.2W	38°48.5N	21/ 1/74	20°07'10	64-378	KAN., C-95
99°06.2W	38°29.5N	21/ 1/74	20°07'18	92-281	KANSAS, C-90
99°02.9W	41°01.2N	22/ 1/74	19°23'40	70-254	NEB., PLATTE R., LOUP RIVERS, KEARNEY, S-100, C-30
99°37.5W	41°56.1N	14/ 1/74	17°02'25	93-097	NEB., MIDDLE LOUP R., N. LOUP R., SAND HILLS, S-100
99°20.4W	42°04.8N	14/ 1/74	17°02'30	70-128	NEB., S. D., MISSOURI R., NIobrARA R., O'NEILL, S-100, C-50
99°10.8W	42°08.3N	14/ 1/74	17°02'32	93-098	NEB., SAND HILLS, ATKINSON, S-100
99°50.4W	43°32.5N	30/11/73	16°33'21	* 52-043	S. D., NEB., MISSOURI R., F. CASE RES., NIobrARA R., S-30
99°06.2W	43°14.0N	30/11/73	16°33'30	* 52-044	S. D., NEB., MISSOURI R., F. CASE RES., NIobrARA R., S-50, C-10
99°41.5W	43°27.7N	18/ 1/74	20°39'23	70-151	S. D., NEB., MISSOURI R., FT. RANDALL RES., WHITE R., NIobrARA R.
99°49.7W	43°31.2N	30/11/73	16°33'21	90-003	SOUTH DAKOTA, MISSOURI R., F. CASE LAKE, BIG WHITE R., WINNEK S-25
99°22.7W	43°20.0N	30/11/73	16°33'27	90-004	S. D., NEB., F. CASE LAKE, NIobrARA R., PLATTE, GREGORY, S-60
99°45.4W	43°28.4N	18/ 1/74	20°39'22	92-174	S.D., MISSOURI R., WHITE R. LAKE F. CASE, S-10
99°17.4W	43°16.8N	18/ 1/74	20°39'29	92-175	NEB., S. D., MISSOURI R., LAKE FRANCIS CASE, NIobrARA R., S-25
99°14.8W	45°04.8N	24/ 1/74	17°56'32	70-349	S. D., N. D., FAULTON, ISPACH, S-90, C-60
99°06.9W	46°32.3N	20/ 1/74	19°12'20	70-214	S. D., N. D., MONT., C-100
99°32.9W	46°38.5N	20/ 1/74	19°12'15	92-238	N. D., C-100
98°37.5W	3°53.8N	8/ 1/74	16°23'50	64-064	PACIFIC C. SW OF CENTRAL AMERICA, C-90
98°45.5W	3°43.0N	8/ 1/74	16°23'47	89-257	PACIFIC O. OFF CENTRAL AMERICA, C-90
98°14.2W	4°24.3N	8/ 1/74	16°24'00	64-065	PACIFIC C. SW OF CENTRAL AMERICA, C-90
98°31.0W	4°00.5N	8/ 1/74	16°23'53	89-258	PACIFIC O. OFF CENTRAL AMERICA, C-95
98°16.1W	4°20.2N	8/ 1/74	16°23'59	89-259	PACIFIC C. OFF CENTRAL AMERICA, C-100
98°02.0W	4°39.6N	8/ 1/74	16°24'05	89-260	PACIFIC O. OFF CENTRAL AMERICA, C-100
98°54.0W	9°44.7N	7/ 1/74	17°08'20	64-004	PACIFIC C. SOUTH OF TEHUANTEPEC MEXICO, C-11
98°53.0W	9°44.5N	7/ 1/74	17°08'20	89-169	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
98°31.0W	10°14.0N	7/ 1/74	17°08'30	64-005	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
98°07.9W	10°43.3N	7/ 1/74	17°08'40	64-006	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
98°38.5W	10°02.8N	7/ 1/74	17°08'26	89-170	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
98°24.4W	10°21.3N	7/ 1/74	17°08'33	89-171	PACIFIC C. SW OF TEHUANTEPEC, MEXICO
98°09.5W	10°40.1N	7/ 1/74	17°08'39	89-172	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
98°37.2W	15°57.5N	6/ 1/74	17°53'00	58-333	MEXICO (OAXACA-GUERRERO), BAHIA DLCE, OMOITEPEC

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
98°13.8W 98°02.6W	16°25.6N 16°47.2N	6/ 1/74 26/ 1/74	17°53'10 19°49'35	58-334 92-380	MEXICO (OAXACA-GUERRERO), BAHIA DLCE, OMOITEPEC RIC VERDE, C-10 MEXICO, (OAXACA-GUERRERO), OMOITEPEC, RIO OMOITEPEC, C-30
98°41.2W 98°16.8W 98°40.2W 98°15.8W 98°47.8W 98°14.8W 98°49.1W 98°33.9W 98°18.1W	17°36.5N 17°08.0N 17°52.5N 17°03.7N 17°42.5N 17°41.3N 17°41.3N 17°23.6N 17°05.3N	3/12/73 3/12/73 26/ 1/74 26/ 1/74 3/12/73 3/12/73 26/ 1/74 26/ 1/74 26/ 1/74	17°42'31 17°42'41 19°49'19 19°49'29 17°42'28 17°42'42 19°49'16 19°49'22 19°49'28	* 52-322 * 52-323 ▲ 76-110 ▲ 76-111 90-284 90-285 92-377 92-378 92-379	GUERRERO, PUEBLA, OAXACA, TLAPA, ACATLAN GUERRERO, OAXACA, RIO OMOITEPEC MEXICO (GUERRERO-PUEBLA), OAXACA, CHILPANCINGO, TLAPA, C-35 MEXICO (OAXACA-GUERRERO), CERRO YUCYACUA, OMOITEPEC, C-35 MURELOS-PUEBLA-GUERRERO, RIO MEXCALA C-15 GUERRERO-OAXACA, SIERRA MADRE DEL SUR C-25 MEXICO, (GUERRERO-TLAPA), RIO TLAPANECO, C-35 MEXICO, (OAXACA-GUERRERO), TLAPA, SIERRA MADRE DEL SUR, C-35 MEXICO, (OAXACA-GUERRERO), RIO OMOITEPEC, C-30
98°08.6W	20°02.7N	27/ 1/74	19°05'38	76-239	MEXICO, PUEBLA, TLAXCALA, VERA CRUZ, MALINCHE VOL., C-45
98°54.0W 98°37.9W 98°22.4W 98°06.2W 98°53.0W 98°36.2W 98°19.4W 98°02.9W	22°59.3N 22°42.7N 22°26.0N 22°08.5N 22°57.2N 22°35.7N 22°22.1N 22°04.5N	1/ 2/74 1/ 2/74 1/ 2/74 1/ 2/74 1/ 2/74 1/ 2/74 1/ 2/74 1/ 2/74	17°05'38 17°05'44 17°05'50 17°05'56 17°05'38 17°05'45 17°05'51 17°05'57	48-080 48-081 48-082 48-083 94-272 94-273 94-274 94-275	MEXICO (TAMAULIPAS-SAN LUIS POTOSI) SIERRA MADRE ORIENTAL, C-40 MEXICO (SAN LUIS POTOSI-TAMAULIPAS) SIERRA MADRE ORIENTAL, C-60 MEXICO (SAN LUIS POTOSI-TAMAULIPAS) SIERRA MADRE ORIENTAL, C-60 MEXICO (SAN LUIS POTOSI-TAMAULIPAS) SIERRA MADRE ORIENTAL, C-60 TAMAULIPAS, SAN LUIS POTOSI, RIO TAMESE, C-70 TAMAULIPAS, SAN LUIS POTOSI, VERA CRUZ, RIO TAMESE, LAGUNA TORTUGA, TAMAULIPAS, SAN LUIS POTOSI, VERA CRUZ, TAMPICO, RIO TAMESE, PANUCO VERA CRUZ, SAN LUIS POTOSI, TAMPICO, PANUCO, C-40
98°50.4W 98°19.8W 98°16.8W	26°11.2N 26°38.0N 26°57.6N	14/ 1/74 14/ 1/74 28/ 1/74	15°22'40 15°22'50 18°20'55	70-002 70-003 93-325	MEXICO, C-100 TEX., MEXICO, GULF OF MEXICO, C-100 TEX., FALFURRIAS, C-10
98°56.7W 98°30.3W 98°01.0W 98°10.9W 98°09.9W 98°45.5W 98°28.0W 98°11.2W 98°53.0W 98°34.6W	27°35.4N 27°44.6N 27°12.6N 27°03.4N 27°18.5N 27°34.7N 27°18.4N 27°02.7N 27°31.1N 27°14.3N	28/ 1/74 29/11/73 25/11/73 5/12/73 25/11/73 5/12/73 5/12/73 5/12/73 28/ 1/74 28/ 1/74	18°20'41 18°57'25 18°57'35 16°14'00 18°57'32 16°13'48 16°13'54 16°14'00 18°20'42 18°20'48	A4-042 * 52-015 * 52-016 * 52-337 89-018 91-002 91-003 91-004 93-323 93-324	TEX., NUEVO LEON, TAMAULIPAS, LAREDO, NUEVO LAREDO, RIO GRANDE TEX., MEXICO (TAMAULIPAS-NUEVO LEON) CAHUILLA, RIO GRANDE, LAREDO TEX., MEXICO (TAMAULIPAS-FALCON RES.), RIO GRANDE, MCALLEN TEX., BAFFIN BAY, PADRE I., MCALLEN, KINGSVILLE TEX., MEXICO (TAMAULIPAS), COMUS CHRISTI, MCALLEN, FALFURRIAS TEX., FREER, HEBRONVILLE, BUSTAMANTE TEX., FALFURRIAS, HEBRONVILLE, BENAVIDES, SAN DIEGO TEX., FALFURRIAS, KING RANCH TEX., HEBRONVILLE, BENAVIDES, FREER TEX., BENAVIDES, FREER, HEBRONVILLE, FALFURRIAS
98°59.6W 98°49.1W	28°16.2N 28°01.4N	29/11/73 29/11/73	18°57'15 18°57'19	* 52-014 89-017	TEX., MEXICO (COA-N.L.TAMP), RIO GRANDE, SAN ANTONIO, LAREDO TEX., MEXICO (NUEVO LEON-TAMP), LAREDO, NUEVO LAREDO
98°33.3W 98°04.6W 98°57.3W 98°25.7W 98°45.5W 98°26.0W 98°06.2W	31°25.2N 31°05.6N 31°46.5N 31°23.1N 31°36.1N 31°22.3N 31°06.1N	1/12/73 1/12/73 29/ 1/74 25/ 1/74 29/ 1/74 25/ 1/74 25/ 1/74	17°29'22 17°29'31 17°36'39 17°36'49 17°36'43 17°36'49 17°36'56	* 52-122 * 52-123 76-368 76-369 94-120 94-121 94-122	TEX., BROWNWOOD, BRAZOS R., KILLEEN, HAMILTON TEX., AUSTIN, TEMPLE, KILLEEN, LBJ LAKE, INKS LAKE TEX., BROWNWOOD, BRADY, SAN SABA, DE LEON, COLEMAN TEX., KILLEEN, FT. HOOD, LBJ LAKE, INKS LAKE, COLORADO R. TEX., BROWNWOOD, SAN SABA, COMANCHE, COLORADO R. TEX., KILLEEN, LAMPASSAS, SAN SABA, COLORADO R., LBJ LAKE TEX., KILLEEN, TEMPLE, BURNET, LAMPASSAS, COLORADO R.
98°05.9W	34°43.3N	30/ 1/74	16°52'59	A4-194	OKLA., LAWTON, NORMAN, CHICKASHA, DUNCAN, C-20
98°07.2W 98°09.2W	34°31.0N 34°57.7N	12/ 1/74 2/12/73	16°51'00 16°45'26	64-281 90-148	OKLA., TEX., LAWTON, NORMAN, RED R., CANADIAN R., C-20, S-20 OKLAHOMA, CHICKASHA, LAKE ELLWORTH, APACHE, LINDSAY, C-15
98°39.5W 98°30.0W 98°50.7W 98°29.6W 98°42.2W	25°07.5N 25°13.5N 25°27.5N 25°12.3N 25°09.3N	30/ 1/74 2/12/73 2/12/73 2/12/73 30/ 1/74	16°52'49 16°45'20 16°45'14 16°45'20 16°52'48	A4-193 * 52-179 90-146 90-147 94-172	OKLA., OKLA. CITY, LAWTON, CHICKASHA, WICHITA MTS., C-25 OKLA., OKLAHOMA CITY, NORMAN, CANADIAN R., C-10 OKLAHOMA, WEATHERFORD, CANADIAN R., FT. COBB RES. OKLAHOMA, CHICKASHA, ANADARKO, FT. COBB RES., C-15 OKLA., WEATHERFORD, FORT SILL, ANADARKO, C-50
98°01.0W 98°13.5W 98°52.4W 98°29.6W 98°06.9W	37°48.7N 37°56.1N 37°11.7N 37°25.6N 37°35.6N	21/ 1/74 3/12/73 11/ 1/74 11/ 1/74 11/ 1/74	16°09'10 16°01'36 17°34'40 17°34'46 17°34'52	A4-342 90-212 92-045 92-046 92-047	KAN., WICHITA, WELLINGTON, NEWTON, EL DORADO, C-30 KANSAS C-100 OKLA., KAN., SALT FORK, MEDICINE LODGE, PRATT, S-100 KAN., PRATT, MEDICINE LODGE, KINGMAN, S-100 KAN., WICHITA, ARKANSAS R., HUTCHINSON, S-100
98°38.2W 98°59.3W 98°21.7W 98°42.5W 98°18.8W	38°11.3N 38°26.8N 38°04.6N 38°15.5N 38°01.6N	31/ 1/74 21/ 1/74 21/ 1/74 21/ 1/74 21/ 1/74	16°09'00 20°07'20 20°07'30 20°07'24 20°07'31	A4-341 64-379 64-380 92-282 92-283	KAN., KANAPOLIS RES., SMOKY HILL R., C-70 KAN., C-90 KAN., C-95 KAN., C-90 KAN., C-98
98°22.4W	40°40.6N	22/ 1/74	19°23'50	70-255	NEB., KAN., PLATTE R., KEARNEY, S-50, C-40
98°21.1W 98°37.9W 98°13.8W 98°26.7W 98°22.4W 98°46.1W 98°17.1W	42°54.6N 42°24.1N 42°50.6N 42°56.2N 42°53.4N 42°20.5N 42°32.5N	30/11/73 14/ 1/74 18/ 1/74 30/11/73 18/ 1/74 14/ 1/74 14/ 1/74	16°33'40 17°02'40 20°39'43 16°33'39 20°39'41 17°02'38 17°02'44	* 52-045 70-129 70-153 90-006 92-177 93-099 93-100	S. D., NEB., MISSOURI R., FT. RANDALL DAM, NIOBRARA R., S-60, C-40 NEB., S. D., MISSOURI R., NIOBRARA R., LEWIS + CLARK RES., S-100, C-40 S. D., NEB., MISSOURI R., YANKTON, LEWIS + CLARK RES., S-60 S. D., NEB., FT. RANDALL DAM, NIOBRARA R., WAGNER, S-70 C-15 S. D., NEB., MISSOURI R., FT. RANDALL DAM, NIOBRARA R., S-25 S. D., NEB., NIOBRARA R., O'NEILL, MISSOURI R., S-100 S. D., NEB., MISSOURI R., LEWIS + CLARK RES., O'NEILL, S-100
98°57.7W 98°54.4W 98°50.4W	43°09.3N 43°08.1N 43°05.5N	18/ 1/74 30/11/73 18/ 1/74	20°59'33 16°33'33 20°39'35	70-152 90-005 92-176	S. D., NEB., MISSOURI R., NIOBRARA R., FT. RANDALL RES., S-30 S. D., FT. RANDALL DAM, WAGNER, NIOBRARA R., GREGORY, S-70 NEB., S. D., MISSOURI R., LAKE FRANCIS CASE, NIOBRARA R., S-25, C-10
98°28.3W	44°48.3N	24/ 1/74	17°56'42	70-350	S. D., HURON, REEFIELD, CLARK, S-50, C-35
98°17.4W 98°26.7W	46°18.0N 46°15.5N	20/ 1/74 20/ 1/74	19°12'30 19°12'28	70-215 92-239	S. D., N. D., C-100 N. D., C-100
97°51.7W 97°47.8W	4°55.0N 4°58.5N	8/ 1/74 8/ 1/74	16°24'10 16°24'11	64-066 89-261	PACIFIC O. SW OF CENTRAL AMERICA, C-100 PACIFIC O. OFF CENTRAL AMERICA, C-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
97°29.3W	5°25.1N	8/ 1/74	16°24'20	64-067	PACIFIC O. SW OF CENTRAL AMERICA, C-59
97°06.9W	5°54.0N	8/ 1/74	16°24'30	64-068	PACIFIC O. SW OF CENTRAL AMERICA, C-55
97°33.9W	5°17.5N	8/ 1/74	16°24'18	89-262	PACIFIC O. OFF CENTRAL AMERICA, C-100
97°19.8W	5°36.5N	8/ 1/74	16°24'24	89-263	PACIFIC O. OFF CENTRAL AMERICA, C-55
97°05.6W	5°54.8N	8/ 1/74	16°24'30	89-264	PACIFIC O. OFF CENTRAL AMERICA, C-56
97°55.4W	10°5E.0N	7/ 1/74	17°08'45	89-173	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
97°44.8W	11°12.7N	7/ 1/74	17°08'50	64-007	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
97°21.8W	11°41.5N	7/ 1/74	17°09'00	64-008	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
97°41.2W	11°16.1N	7/ 1/74	17°08'51	89-174	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
97°26.7W	11°34.3N	7/ 1/74	17°08'57	89-175	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
97°12.2W	11°52.4N	7/ 1/74	17°09'04	89-176	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
97°03.3W	15°41.6N	3/12/73	17°43'11	* 52-326	OAXACA, POCHUTLA, PUERTO ANGEL, RIO CAPATIA
97°02.3W	15°37.0N	26/ 1/74	19°49'59	▲ 76-114	MEXICO (OAXACA-PUERTO ANGEL), COLOTEPEC, COLOTEPEC, SAN PEDRO, C-20
97°09.6W	15°47.6N	3/12/73	17°43'09	90-287	OAXACA, PUERTO ANGEL, POCHUTLA C-15
97°16.8W	15°53.0N	26/ 1/74	19°49'54	92-383	MEXICO, (OAXACA-BOCA RIO VERDE), RIO VERDE, C-30
97°01.3W	15°34.7N	26/ 1/74	19°50'00	92-384	MEXICO, (OAXACA-PUERTO ANGEL), CHILA, C-70
97°52.4W	16°35.2N	3/12/73	17°42'51	* 52-324	OAXACA, RIO VERDE, BOCA RIO VERDE
97°28.0W	16°10.6N	3/12/73	17°43'01	* 52-325	OAXACA, RIO VERDE, CHILA, PUERTO ESCONDIDO
97°49.1W	16°54.6N	6/ 1/74	17°53'20	58-335	MEXICO (OAXACA-GUERRERO), RIO VERDE, CERRO YUCUYACUY, C-10
97°51.1W	16°34.5N	26/ 1/74	19°49'39	▲ 76-112	MEXICO (OAXACA-GUERRERO), OMOTEPEC, RIO VERDE, C-30
97°26.7W	16°06.0N	26/ 1/74	19°49'49	▲ 76-113	MEXICO (OAXACA-LAGUNA), PASTORIA RIO VERDE, TUTUTEPEC, C-25
97°42.5W	16°26.3N	3/12/73	17°42'55	90-286	OAXACA-RIO VERDE, TUTUTEPEC, LAGUNA PASTORM C-20
97°47.5W	16°25.4N	26/ 1/74	19°49'41	92-381	MEXICO, (OAXACA-SIERRA MADRE DEL SLP), RIO VERDE, C-30
97°32.0W	16°11.1N	26/ 1/74	19°49'47	92-382	MEXICO, (OAXACA-BOCA RIO VERDE), RIO VERDE, C-30
97°24.7W	17°23.3N	6/ 1/74	17°53'30	58-336	MEXICO (OAXACA-OAXACA) RIO SANTO DOMINGO, C10
97°00.0W	17°52.0N	6/ 1/74	17°53'40	58-337	MEXICO (OAXACA-VERA CRUZ, OAXACA) MIGUEL ALEMAN RES, TIERRA BLANCA
97°23.4W	17°23.8N	6/ 1/74	17°53'30	91-337	MEXICO (OAXACA), TAMAZULAPAN, INOCHITLAN, C-15
97°07.9W	17°41.6N	6/ 1/74	17°53'36	91-338	MEXICO (PUEBLA-OAXACA), CUTCATLAN, INOCHITLAN, C-10
97°38.2W	19°3E.1N	27/ 1/74	19°05'48	76-240	PUEBLA, TLAXCALA, VERA CRUZ, MALINCHE VOL., PUEBLA, ORIZABA VOL., C-35
97°08.2W	19°13.6N	27/ 1/74	19°05'58	76-241	OAXACA, VERA CRUZ, PUEBLA, VERA CRUZ, ORIZABA VOL., MALINCHE VOL.
97°50.4W	21°52.4N	1/ 2/74	17°06'02	48-084	MEXICO (VERA CRUZ-TAMAULIPAS), CABO ROJO, LAGUNA TAMIAMUA, TAMPICC
97°34.9W	21°35.6N	1/ 2/74	17°06'08	48-085	MEXICO (VERA CRUZ-TAMPICO), CABO ROJO, TUXPAN, C-50
97°19.4W	21°15.0N	1/ 2/74	17°06'14	48-086	MEXICO (VERA CRUZ-PUEBLA) CABO ROJO, TLXPAN, POZA RICA, C-50
97°03.6W	21°01.7N	1/ 2/74	17°06'20	48-087	MEXICO (VERA CRUZ-PUEBLA) POZA RICA, GULF OF MEXICO, C-50
97°46.8W	21°47.1N	1/ 2/74	17°06'03	94-276	VERA CRUZ, TAMPICO, LAGUNA TAMIAMUA, CABO ROJO, C-60
97°30.6W	21°30.0N	1/ 2/74	17°06'09	94-277	VERA CRUZ, LAGUNA TAMIAMUA, CABO ROJO, C-60
97°14.2W	21°12.0N	1/ 2/74	17°06'16	94-278	VERA CRUZ, CABO ROJO, TUXPAN, TAMIAMUA, C-40
97°02.3W	25°46.2N	28/ 1/74	18°21'21	A4-044	TEX., TAMAULIPAS, RIO GRANDE, LAGUNA MADRE, C-70
97°00.3W	25°55.3N	5/12/73	16°14'25	91-008	TEX., MEXICO (TAMAULIPAS), BROWNSVILLE, MOUTH OF RIO GRANDE
97°05.6W	25°51.5N	28/ 1/74	18°21'20	93-329	TEX., MEXICO (TAMAULIPAS) MATAMOROS, BROWNSVILLE, PORT ISABAL, C-70
97°59.0W	26°42.5N	28/ 1/74	18°21'01	A4-043	TEX., TAMAULIPAS, RENUSA, MCALLEN, RIO GRANDE, C-35
97°32.0W	26°40.6N	29/11/73	18°57'45	* 52-017	TEX., MEXICO (TAMAULIPAS-RIO GRANDE), BROWNSVILLE, MATAMOROS, C-10
97°03.3W	26°05.2N	29/11/73	18°57'55	* 52-018	TEX., MEXICO (TAMAULIPAS-CORPUS CHRISTI), MATAMOROS
97°42.2W	26°36.5N	5/12/73	16°14'10	* 52-338	TEX., MEXICO, (TAMALIPAS), RAFFIN RAY, PADRE I., MATAMOROS, BROWNSVILLE
97°14.2W	26°09.5N	5/12/73	16°14'20	* 52-339	TEX., MEXICO, (TAMALIPAS), BROWNSVILLE, MATAMOROS, HARLINGEN, C-10
97°31.3W	26°36.7N	29/11/73	18°57'45	89-019	TEX., MEXICO (TAMAULIPAS), BROWNSVILLE, MATAMOROS, HARLINGEN
97°53.1W	26°45.5N	5/12/73	16°14'06	91-005	TEX., MEXICO (TAMAULIPAS), MCALLEN, HARLINGEN, EDINBURG
97°35.6W	26°29.1N	5/12/73	16°14'12	91-006	TEX., MEXICO (TAMAULIPAS), MATAMOROS, BROWNSVILLE, RAYMONDVILLE
97°17.8W	26°12.0N	5/12/73	16°14'19	91-007	TEX., MEXICO (TAMAULIPAS), BROWNSVILLE, MATAMOROS, HARLINGEN
97°59.0W	26°41.3N	28/ 1/74	18°21'01	93-326	TEX., RAYMONDVILLE, EDINBURG, MERCEDES, C-30
97°40.9W	26°24.5N	28/ 1/74	18°21'07	93-327	TEX., MEXICO (TAMAULIPAS) MATAMOROS, BROWNSVILLE, C-50
97°23.4W	26°08.2N	28/ 1/74	18°21'13	93-328	TEX., MEXICO (TAMAULIPAS) MATAMOROS, BROWNSVILLE, PORT ISABAL, C-70
97°48.1W	27°05.5N	14/ 1/74	15°23'00	70-004	TEX., GULF OF MEXICO, C-98
97°17.1W	27°31.7N	14/ 1/74	15°23'10	70-005	TEX., GULF OF MEXICO, C-95
97°31.3W	30°3E.1N	1/12/73	17°29'42	* 52-124	TEX., AUSTIN, LAKE TRAVIS, TEMPLE, FT. HOOD, BUCHANAN LAKE
97°00.7W	30°12.4N	1/12/73	17°29'52	* 52-125	TEX., AUSTIN, COLORADO R., BRAZOS R., COLLEGE STATION
97°54.7W	30°57.6N	29/ 1/74	17°36'59	76-370	TEX., AUSTIN, KILLEEN, LBJ LAKE, TRAVIS LAKE, COLLEGE R.
97°23.7W	30°30.5N	29/ 1/74	17°37'09	76-371	TEX., AUSTIN, TEMPLE, TAYLOR, COLORADO R., KILLEEN
97°51.7W	30°53.5N	1/12/73	17°29'35	90-092	TEXAS, AUSTIN, KILLEEN, TEMPLE, LAMPASAS
97°22.4W	30°29.5N	1/12/73	17°29'45	90-093	TEXAS, AUSTIN, TEMPLE, TAYLOR, ROCKDALE
97°46.5W	30°50.0N	29/ 1/74	17°37'02	94-123	TEX., AUSTIN, KILLEEN, TEMPLE, TRAVIS LAKE, COLORADO R.
97°27.7W	30°33.5N	29/ 1/74	17°37'08	94-124	TEX., AUSTIN, TAYLOR, GEORGETOWN, TEMPLE, COLORADO R.
97°08.9W	30°17.4N	29/ 1/74	17°37'14	94-125	TEX., AUSTIN, BASTROP, ELGIN, GIDDINGS, COLORADO R.
97°32.3W	34°19.1N	30/ 1/74	16°53'09	A4-195	OKLA., TEX., RED R., ARDMORE, ARBUCKLE MTS., CANADIAN R., C-10
97°55.7W	34°4E.6N	2/12/73	16°45'30	* 52-180	OKLA., OKLAHOMA CITY, NORMAN, CANADIAN R., ARBUCKLE MTS., C-15
97°22.7W	34°23.7N	2/12/73	16°45'40	* 52-181	OKLA., TEX., RED R., NORMAN, ARDMORE, LAKE TEXOMA, C-10
97°48.4W	34°42.0N	2/12/73	16°45'32	90-149	OKLAHOMA, DUNCAN, PAULS VALLEY, LINDSAY, CHICKASAW, C-10
97°27.7W	34°26.4N	2/12/73	16°45'39	90-150	OKLA.-TEX., RED RIVER, ARBUCKLE MTS., ARDMORE, KINGLING
97°08.2W	34°11.7N	2/12/73	16°45'44	90-151	OKLA.-TEX., RED RIVER, LAKE TEXOMA, ARDMORE, MADILL C-10
97°56.7W	34°35.8N	30/ 1/74	16°53'02	94-173	OKLA., LAWTON, CHICKASAW, DUNCAN
97°10.5W	34°02.3N	30/ 1/74	16°53'15	94-174	OKLA., TEX., RED R., LAKE TEXOMA, ARDMORE
97°21.1W	37°25.5N	31/ 1/74	16°09'20	A4-343	KAN., OKLA., WICHITA, ARKANSAS R., WINFIELD, PONCA CITY, C-20
97°44.8W	37°42.0N	21/ 1/74	20°07'40	64-381	OKLA., KAN., S. HAVEN, C-90
97°08.2W	37°15.1N	21/ 1/74	20°07'50	64-382	OKLA., KAN., ARKANSAS R., PONCA CITY, C-75
97°24.4W	37°26.0N	3/12/73	16°01'49	90-213	OKLA.-KAN., WELLINGTON, ARKANSAS R. C-75
97°44.2W	37°54.0N	11/ 1/74	17°34'59	92-048	KAN., WICHITA, HUTCHINSON, ARKANSAS R., S-100
97°55.4W	37°47.6N	21/ 1/74	20°07'37	92-284	KAN., C-95
97°33.3W	37°33.5N	21/ 1/74	20°07'43	92-285	OKLA., KAN., MULVAIN, ARKANSAS R., C-95
97°09.6W	37°19.1N	21/ 1/74	20°07'50	92-286	OKLA., KAN., PONCA CITY, ARKANSAS R., C-80
97°21.4W	38°07.5N	11/ 1/74	17°35'05	92-049	KAN., NEWTON, MCPHERSON, MARTIN RES., S-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
97°41.5W	40°15.7N	22/ 1/74	19°24'00	70-256	NEB., KAN., CONCORDIA, S-8C, C-6C
97°05.3W	40°00.2N	22/ 1/74	19°24'10	70-257	NEB., KAN., BIG BLUE R., S-7C, C-7C
97°52.4W	40°24.5N	22/ 1/74	19°23'57	93-138	MO., KAN., MARAIS DES CYGNES R., C-75, S-50
97°28.3W	40°11.8N	22/ 1/74	19°24'03	93-139	MU., KAN., MARAIS DES CYGNES R., C-8C, S-30
97°36.6W	42°34.2N	30/11/73	16°33'50	* 52-046	S. D., NEB., MISSOURI R., NIOBRARA R., S-60, C-70
97°54.4W	42°43.6N	14/ 1/74	17°02'50	70-130	NEB., S. D., IA., MISSOURI R., YANKTON, LEWIS + CLARK RES., S-100, C-15
97°31.0W	42°31.7N	18/ 1/74	20°39'53	70-154	S. D., NEB., IA., SIOUX CITY, MISSOURI R., NORFOLK, S-80, C-10
97°56.4W	42°42.2N	30/11/73	16°33'46	90-007	S. D., MISSOURI R., NIOBRARA R., C-6C
97°30.3W	42°30.4N	30/11/73	16°33'52	90-008	S. D., TYNDALL, C-90
97°05.3W	42°15.0N	30/11/73	16°33'58	90-009	S. D., TYNDALL, C-100
97°55.4W	42°41.7N	18/ 1/74	20°39'47	92-178	S. D., NEB., MISSOURI R., LEWIS + CLARK RES., NIOBRARA R., YANKTON S
97°28.7W	42°30.0N	18/ 1/74	20°39'54	92-179	S. D., NEB., IOWA, MISSOURI R., YANKTON, NORFOLK, LEWIS + CLARK RES.
97°02.3W	42°18.0N	18/ 1/74	20°40'00	92-180	S. D., NEB., IOWA, MISSOURI R., SIOUX CITY, NORFOLK, C-20, S-60
97°50.4W	42°44.4N	14/ 1/74	17°02'50	93-101	S. D., NEB., NIOBRARA R., MISSOURI R., YANKTON, S-100
97°23.7W	42°55.5N	14/ 1/74	17°02'57	93-102	S. D., NEB., IOWA, LEWIS + CLARK RES., MISSOURI R., JAMES R., S-100
97°11.2W	43°02.2N	14/ 1/74	17°03'00	70-131	NEB., S. D., IA., MINN., SIOUX FALLS, MISSOURI R., BIG SIOUX R., S-100
97°41.9W	44°31.5N	24/ 1/74	17°56'52	70-351	S. D., WATERTOWN, DE SMET, HURON, S-90, C-20
97°01.3W	44°15.5N	24/ 1/74	17°57'00	93-206	S. D., MINN., BROOKINGS, MADISON, S-100
97°28.7W	46°03.3N	20/ 1/74	19°12'40	70-216	S. D., N. D., C-100
97°20.8W	46°00.2N	20/ 1/74	19°12'42	92-240	N. D., C-100
96°44.2W	6°23.6N	8/ 1/74	16°24'40	64-069	PACIFIC O. SW OF CENTRAL AMERICA, C-50
96°21.4W	6°53.3N	8/ 1/74	16°24'50	64-070	PACIFIC O. SW OF CENTRAL AMERICA, C-40
96°50.8W	6°13.7N	8/ 1/74	16°24'37	89-265	PACIFIC O. OFF CENTRAL AMERICA, C-5C
96°36.6W	6°32.4N	8/ 1/74	16°24'43	89-266	PACIFIC O. OFF CENTRAL AMERICA, C-85
96°22.8W	6°50.5N	8/ 1/74	16°24'49	89-267	PACIFIC O. OFF CENTRAL AMERICA, C-6C
96°09.2W	7°08.3N	8/ 1/74	16°24'55	89-268	PACIFIC O. OFF CENTRAL AMERICA, C-30
96°58.7W	12°11.0N	7/ 1/74	17°09'10	64-009	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-15
96°35.3W	12°40.2N	7/ 1/74	17°09'20	64-010	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-20
96°58.0W	12°10.5N	7/ 1/74	17°09'10	89-177	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
96°43.2W	12°29.0N	7/ 1/74	17°09'16	89-178	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-15
96°28.4W	12°47.4N	7/ 1/74	17°09'22	89-179	PACIFIC C. SW OF TEHUANTEPEC, MEXICO, C-20
96°10.9W	13°10.2N	7/ 1/74	17°09'30	64-011	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-30
96°13.4W	13°04.2N	7/ 1/74	17°09'28	89-180	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-20
96°14.2W	14°39.0N	26/ 1/74	19°50'19	▲ 76-116	PACIFIC O. OFF MEXICO, C-10
96°31.7W	14°58.5N	26/ 1/74	19°50'12	92-386	PACIFIC O. OFF MEXICO, C-10
96°16.8W	14°41.0N	26/ 1/74	19°50'18	92-387	PACIFIC O. OFF MEXICO
96°01.7W	14°22.7N	26/ 1/74	19°50'25	92-388	PACIFIC O. OFF MEXICO, C-10
96°38.9W	15°12.6N	3/12/73	17°43'21	* 52-327	OAXACA, POCHUTLA, PUERTO ANGEL
96°38.2W	15°08.0N	26/ 1/74	19°50'09	▲ 76-115	MEXICO (OAXACA-PUERTO ANGEL), SAN PEDRO, C-10
96°38.2W	15°10.3N	3/12/73	17°43'21	90-288	OAXACA, GOLFO DE TEHUANTEPEC C-2C
96°46.5W	15°17.1N	26/ 1/74	19°50'06	92-385	MEXICO, (OAXACA-PUERTO ANGEL), C-20
96°52.4W	17°59.7N	6/ 1/74	17°53'42	91-339	MEXICO (PUEBLA-OAXACA), MIGUEL ALEMAN RES., SANTO DOMINGO R., C-10
96°35.3W	18°20.5N	6/ 1/74	17°53'50	58-338	MEXICO (OAXACA-VERA CRUZ), MIGUEL ALEMAN RES, CORDOBA, CRIZABA, C-10
96°10.2W	18°49.0N	6/ 1/74	17°54'00	58-339	MEXICO (VERA CRUZ) VERA CRUZ, CORDOBA, TIERRA BLANCA, ALVARADO, C-20
96°37.9W	18°48.3N	27/ 1/74	19°06'09	76-242	OAXACA, VERA CRUZ, PUEBLA, VERA CRUZ, CORDOBA, CRIZABA VOLCANO, C-25
96°08.3W	18°23.3N	27/ 1/74	19°06'19	76-243	OAXACA, VERA CRUZ, VERA CRUZ, ALEMAN RES., TIERRA BLANCA, C-30
96°36.9W	18°17.4N	6/ 1/74	17°53'49	91-340	MEXICO VERA CRUZ-PUEBLA-OAXACA, MIGUEL ALEMAN RES., TIERRA BLANCA
96°21.8W	18°34.7N	6/ 1/74	17°53'55	91-341	MEXICO VERA CRUZ-OAXACA, PUEBLA, MIGUEL ALEMAN RES., TIERRA BLANCA
96°05.0W	18°53.8N	6/ 1/74	17°54'01	91-342	MEXICO VERA CRUZ, ALVARADO, C-15
96°36.3W	18°45.7N	27/ 1/74	19°06'09	94-041	VERA CRUZ, PUEBLA, OAXACA, M. ALEMAN RES., C-30
96°18.1W	18°30.5N	27/ 1/74	19°06'15	94-042	VERA CRUZ, OAXACA, M. ALEMAN RES., TIERRA BLANCA, C-35
96°00.3W	18°15.2N	27/ 1/74	19°06'21	94-043	OAXACA, VERA CRUZ, ALEMAN RES., COSAMALOAPAN, C-30
96°02.0W	19°53.5N	1/ 2/74	17°06'44	48-091	MEXICO (VERA CRUZ) VERA CRUZ, RIO ATOTZC, C-15
96°48.1W	20°45.0N	1/ 2/74	17°06'26	48-088	MEXICO (VERA CRUZ-PUEBLA) POZA RICA, GULF OF MEXICO, C-50
96°32.6W	20°28.0N	1/ 2/74	17°06'32	48-089	MEXICO (VERA CRUZ-PUEBLA) JALAPA, NAYTLA, C-40
96°17.5W	20°11.2N	1/ 2/74	17°06'38	48-090	MEXICO (VERA CRUZ-PUEBLA) JALAPA, MISANTIA, GULF OF MEXICO, C-30
96°12.2W	20°09.6N	4/12/73	16°59'03	90-325	VERACRUZ, EMILIO CARRANZA C-7C
96°58.0W	20°54.6N	1/ 2/74	17°06'22	94-279	VERA CRUZ, TUXPAN, GUTIERREZ ZAMORA, C-4C
96°41.9W	20°37.1N	1/ 2/74	17°06'28	94-280	VERA CRUZ, GUTIERREZ ZAMORA, MISANTIA, C-4C
96°26.1W	20°16.6N	1/ 2/74	17°06'34	94-281	VERA CRUZ, MISANTIA, C-35
96°09.9W	20°01.0N	1/ 2/74	17°06'41	94-282	VERA CRUZ, PUNTA ZEMPOALA, C-20
96°06.6W	24°55.2N	28/ 1/74	18°21'41	A4-045	GULF OF MEXICO, C-80
96°46.2W	25°42.5N	5/12/73	16°14'30	* 52-340	TEX., MEXICO, (TAMALIPAS), MOUTH OF RIO GRANDE, C-15
96°18.5W	25°15.3N	5/12/73	16°14'40	* 52-341	GULF OF MEXICO, C-40
96°52.7W	25°54.0N	29/11/73	18°57'59	89-020	TEX., MEXICO (TAMALIPAS), MOUTH OF RIO GRANDE
96°38.9W	25°34.2N	5/12/73	16°14'33	91-009	MEXICO (TAMALIPAS), LAGUNA DEL BARIL
96°21.4W	25°17.4N	5/12/73	16°14'39	91-010	GULF OF MEXICO
96°04.0W	25°00.0N	5/12/73	16°14'45	91-011	GULF OF MEXICO
96°48.5W	25°34.5N	28/ 1/74	18°21'26	93-330	TEX., MEXICO (TAMALIPAS) MOUTH OF RIO GRANDE, C-75
96°30.7W	25°17.0N	28/ 1/74	18°21'32	93-331	GULF OF MEXICO, C-90
96°44.5W	27°57.1N	14/ 1/74	15°23'20	70-006	TEX., GULF OF MEXICO, C-95
96°12.5W	28°22.0N	14/ 1/74	15°23'30	70-007	TEX., GULF OF MEXICO, C-95
96°30.3W	29°46.4N	1/12/73	17°30'02	* 52-126	TEX., BRAZOS R., COLLEGE STATION, HOLSTON, COLUMBUS
96°00.3W	29°20.3N	1/12/73	17°30'12	* 52-127	TEX., HOUSTON, LB JOHNSON SPACE CENTER, TEXAS CITY, WHARTON

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
96°42.9W	25°56.1N	1/12/73	17°29'58	90-094	TEXAS, COLUMBUS, SOMERVILLE RES., SMITHVILLE, LA GRANGE
96°32.0W	25°45.6N	29/ 1/74	17°37'26	94-127	TEX., COLUMBUS, EAGLE LAKE, BRENHAM, SEALY, COLORADO R.
96°12.9W	25°29.1N	25/ 1/74	17°37'33	94-128	TEX., COLUMBUS, WHARTON, EL CAMPO, ROSENBURG, COLORADO R.
96°53.1W	30°04.6N	29/ 1/74	17°37'19	76-372	TEX., AUSTIN, COLORADO R., COLUMBUS, BRAZOS R.
96°50.4W	30°01.4N	29/ 1/74	17°37'20	94-126	TEX., COLUMBUS, SOMERVILLE RES., LA GRANGE, COLORADO R.
96°59.0W	33°54.6N	30/ 1/74	16°53'19	A4-196	TEX., OKLA., LAKE TEXOMA, DURANT, DALLAS, DENISON, ARMORE
96°25.7W	33°30.0N	30/ 1/74	16°53'29	A4-197	TEX., OKLA., LAKE TEXOMA, DALLAS, SHERMAN, GREENVILLE
96°17.5W	33°33.3N	2/12/73	16°46'00	* 52-182	OKLA., TEX., LAKE TEXOMA, RED R., DENISON, PARIS, C-40
96°39.2W	33°45.3N	2/12/73	16°45'53	90-152	OKLA.-TEX., RED RIVER, LAKE TEXOMA, DURANT, DENISON C-30
96°27.0W	33°30.2N	30/ 1/74	16°53'28	94-175	OKLA., TEX., LAKE TEXOMA, RED R., SHERMAN, DURANT
96°59.0W	35°19.4N	12/ 1/74	16°51'20	64-282	OKLA., OKLA. CITY, CANADIAN R., STILLWATER, C-20, S-40
96°07.6W	36°44.5N	31/ 1/74	16°09'40	A4-345	OKLA., KAN., TULSA, KEYSTONE RES., PONCA CITY, BARTLESVILLE
96°33.0W	36°55.7N	21/ 1/74	20°08'00	64-383	OKLA., KAN., ARKANSAS R., PONCA CITY, KEYSTONE RES., C-60
96°35.3W	36°55.0N	3/12/73	16°02'03	90-214	OKLA.-KAN., ARKANSAS R., PONCA CITY, HOMINY C-40
96°43.5W	37°08.0N	31/ 1/74	16°09'30	A4-344	KAN., OKLA., PONCA CITY, WICHITA, ARKANSAS R., SALT FORK
96°45.5W	37°02.8N	21/ 1/74	20°07'56	92-287	OKLA., KAN., PONCA CITY, ARKANSAS R., ARKANSAS CITY, C-75
96°58.0W	38°21.5N	11/ 1/74	17°35'11	92-050	KAN., MARION RES., COUNCIL GROVE, HERRINGTON, S-100
96°36.9W	38°34.1N	11/ 1/74	17°35'16	92-051	KAN., KANSAS R., EMPORIA, OSAGE CITY, S-100
96°11.2W	38°48.5N	11/ 1/74	17°35'23	92-052	KAN., TOPEKA, KANSAS R., ST. MARK'S, S-100
96°22.4W	39°37.2N	22/ 1/74	19°24'20	70-258	NEB., KAN., C-90, S-70
96°27.0W	39°36.8N	22/ 1/74	19°24'16	93-140	MO., C-94
96°13.5W	39°31.4N	22/ 1/74	19°24'22	93-141	MO., C-93
96°13.2W	41°56.1N	30/11/73	16°34'10	* 52-048	NEB., IOWA, OMAHA, MISSOURI R., C-8C
96°05.9W	41°52.8N	18/ 1/74	20°40'13	70-156	IOWA, NEB., FLOYD R., PLATTE R., S-100, C-70
96°12.2W	41°54.6N	30/11/73	16°34'11	90-011	NEB.-IA, OMAHA C-90
96°09.9W	41°53.8N	18/ 1/74	20°40'12	92-182	NEB., IOWA, MISSOURI R., C-8C, S-50
96°55.4W	42°15.4N	30/11/73	16°34'00	* 52-047	S. D., NEB., IOWA, C-55
96°48.1W	42°12.4N	18/ 1/74	20°40'03	70-155	IA., NEB., SIOUX CITY, MISSOURI R., PLATTE R., NORFOLK, S-100, C-40
96°38.6W	42°06.8N	30/11/73	16°34'04	90-010	S. D., NEB., C-100
96°25.6W	42°05.8N	18/ 1/74	20°40'06	92-181	NEB., IOWA, MISSOURI R., SIOUX CITY, C-6C, S-80
96°27.0W	43°21.1N	14/ 1/74	17°03'10	70-132	NEB., S. D., IA., MINN., SIOUX FALLS, BIG SIOUX R., S-100, C-20
96°11.2W	43°57.1N	24/ 1/74	17°57'12	70-353	S. D., MINN., SIOUX FALLS, MADISON, BROOKINGS, PIPESTONE, S-100, C-20
96°56.7W	43°07.4N	14/ 1/74	17°03'03	93-103	S. D., MINN., IOWA, NEB., SIOUX FALLS, CANTON, BIG SIOUX R., S-100
96°29.0W	43°19.2N	14/ 1/74	17°03'09	93-104	S. D., MINN., IOWA, SIOUX FALLS, ROCK VALLEY, BIG SIOUX R., S-100
96°01.3W	43°32.2N	14/ 1/74	17°03'15	93-105	S. D., MINN., IOWA, WORTHINGTON, SHELTON, SLAYTON, S-100
96°05.0W	43°53.5N	24/ 1/74	17°57'13	93-208	MINN., IOWA, S. D., WORTHINGTON, PIPESTONE, SLAYTON, S-100
96°56.4W	44°14.5N	24/ 1/74	17°57'02	70-352	MINN., S. D., SIOUX FALLS, MADISON, BROOKINGS, S-100, C-30
96°33.3W	44°05.0N	24/ 1/74	17°57'07	93-207	MINN., IOWA, S. D., SIOUX FALLS, PIPESTONE, BROOKINGS, S-100
96°40.2W	45°46.2N	20/ 1/74	19°12'50	70-217	S. D., N. D., C-100
96°16.2W	45°35.7N	20/ 1/74	19°12'55	92-241	N. D., C-100
95°59.4W	7°22.5N	8/ 1/74	16°25'00	64-071	PACIFIC O. SW OF CENTRAL AMERICA, C-30
95°36.6W	7°52.0N	8/ 1/74	16°25'13	64-072	PACIFIC O. SW OF CENTRAL AMERICA, C-30
95°55.1W	7°26.7N	8/ 1/74	16°25'01	89-269	PACIFIC O. OFF CENTRAL AMERICA, C-35
95°40.6W	7°45.4N	8/ 1/74	16°25'08	89-270	PACIFIC O. OFF CENTRAL AMERICA, C-30
95°14.2W	8°21.3N	8/ 1/74	16°25'20	64-073	PACIFIC O. SW OF CENTRAL AMERICA, C-25
95°26.7W	8°03.7N	8/ 1/74	16°25'14	89-271	PACIFIC O. OFF CENTRAL AMERICA, C-25
95°12.2W	8°22.3N	8/ 1/74	16°25'20	89-272	PACIFIC O. OFF CENTRAL AMERICA, C-20
95°47.5W	13°35.2N	7/ 1/74	17°09'40	64-012	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-30
95°26.7W	13°40.8N	26/ 1/74	19°50'39	▲ 76-117	PACIFIC O. OFF MEXICO, C-20
95°59.0W	13°23.5N	7/ 1/74	17°09'35	89-181	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-25
95°44.2W	13°42.2N	7/ 1/74	17°09'41	89-182	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-20
95°32.0W	13°46.3N	26/ 1/74	19°50'57	92-390	PACIFIC O. OFF MEXICO, C-25
95°16.5W	13°27.3N	26/ 1/74	19°50'44	92-391	PACIFIC O. OFF MEXICO, C-30
95°01.7W	13°06.5N	26/ 1/74	19°50'50	92-392	PACIFIC O. OFF MEXICO, C-25
95°23.8W	14°08.2N	7/ 1/74	17°09'50	64-013	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
95°00.0W	14°37.2N	7/ 1/74	17°10'00	64-014	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-10
95°29.0W	14°00.8N	7/ 1/74	17°09'48	89-183	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
95°18.4W	14°18.4N	7/ 1/74	17°09'54	89-184	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
95°46.5W	14°04.4N	26/ 1/74	19°50'31	92-389	PACIFIC O. OFF MEXICO, C-20
95°38.9W	17°58.4N	27/ 1/74	19°06'29	76-244	OAXACA, VERA CRUZ, RIO PLAYA, VICENTE, COSAMALOAPAN, C-30
95°09.9W	17°33.2N	27/ 1/74	19°06'39	76-245	OAXACA, VERA CRUZ, RIO CAJONOS, ISTHMUS OF TEHUANTEPEC, C-60
95°42.2W	17°55.5N	27/ 1/74	19°06'27	94-044	OAXACA, VERA CRUZ, RIO PLAYA VICENTE, LOMA BONITA, C-35
95°23.4W	17°43.6N	27/ 1/74	19°06'34	94-045	OAXACA, VERA CRUZ, RIO DE LA LANA, RIO TRINIDAD, C-45
95°05.0W	17°27.6N	27/ 1/74	19°06'40	94-046	OAXACA, VERA CRUZ, JESUS CARRANZA, RIO JALTEPEC, C-55
95°01.3W	18°45.7N	1/ 2/74	17°07'08	48-095	MEXICO (VERA CRUZ) SAN ANDRES TUXLA, LAGO CATAMAGO, C-25
95°08.3W	18°57.7N	4/12/73	16°59'29	90-329	VERACRUZ, SANTIAGO TUXLA, PUNTA ROCA PATIDA C-20
95°06.0W	18°50.2N	1/ 2/74	17°07'06	94-286	VERA CRUZ, SAN ANDRES TUXLA, LAGO CATAMAGO, C-35
95°46.8W	19°37.1N	1/ 2/74	17°06'50	48-092	MEXICO (VERA CRUZ) VERA CRUZ, ALVARADO, GULF OF MEXICO, C-10
95°31.7W	19°20.2N	1/ 2/74	17°06'56	48-093	MEXICO (VERA CRUZ) VERA CRUZ, LAGUNA ALVARADO, SAN ANDRES TUXLA, C-10
95°16.5W	19°03.2N	1/ 2/74	17°07'02	48-094	MEXICO (VERA CRUZ) VERA CRUZ, LAGO CATAMAGO, GULF OF MEXICO, C-15
95°45.2W	19°17.3N	6/ 1/74	17°54'10	58-340	MEXICO (VERA CRUZ) VERA CRUZ, ALVARADO, RIO SAN JUAN, C-35
95°19.8W	19°45.7N	6/ 1/74	17°54'20	58-341	GULF OF MEXICO, C-60
95°56.1W	19°51.8N	4/12/73	16°59'10	90-326	VERACRUZ, PUNTA ZEMPOALA C-65
95°39.9W	19°33.7N	4/12/73	16°59'16	90-327	VERACRUZ, ARRECIFE ANEGADA DE AFUERA, ARRECIFE EL CABEZO C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
95°24.1W	19°15.7N	4/12/73	16°59'22	90-328	VERACRUZ, ARRECIFE ANEGADA DE AFUERA, ARRECIFE EL CABEZU C-25
95°48.8W	19°12.1N	6/ 1/74	17°54'08	91-343	MEXICO VERA CRUZ, ALVARADO, C-35
95°33.0W	19°25.5N	6/ 1/74	17°54'14	91-344	GULF OF MEXICO, ARRECIFE ANEGADA DE AFUERA, C-55
95°16.8W	19°47.8N	6/ 1/74	17°54'20	91-345	GULF OF MEXICO, C-70
95°53.8W	19°43.5N	1/ 2/74	17°06'47	94-283	VERA CRUZ, VERA CRUZ
95°37.9W	19°26.1N	1/ 2/74	17°06'53	94-284	VERA CRUZ, VERA CRUZ C-10
95°22.1W	19°08.1N	1/ 2/74	17°07'00	94-285	VERA CRUZ, ALVARADO, C-20
95°01.3W	20°05.3N	6/ 1/74	17°54'26	91-346	GULF OF MEXICO, C-50
95°11.9W	24°00.1N	28/ 1/74	18°22'01	A4-046	GULF OF MEXICO, C-25
95°47.2W	24°43.5N	5/12/73	16°14'51	91-012	GULF OF MEXICO
95°29.7W	28°53.3N	1/12/73	17°30'22	* 52-128	TEX., HOUSTON, LB JOHNSON SPACE CENTER, GALVESTON, FREEPORT
95°00.4W	28°27.1N	1/12/73	17°30'32	* 52-129	TEX., TEXAS CITY, GALVESTON, FREEPORT
95°41.9W	28°45.7N	14/ 1/74	15°23'40	70-008	TEX., GULF OF MEXICO, C-95
95°28.4W	28°51.1N	1/12/73	17°30'23	90-096	TEXAS, BAY CITY, ANGLETON, BRAZOS R., SAN LUIS PASS
95°09.9W	28°34.7N	1/12/73	17°30'29	90-097	TEXAS, FREEPORT, CLUTE, BRAZOS R., SAN LUIS PASS
95°35.0W	28°55.5N	29/ 1/74	17°37'45	94-130	TEX., FREEPORT, COLORADO R., BRAZOS R., ANGLETON, SAN LUIS PASS, C-15
95°17.2W	28°40.1N	29/ 1/74	17°37'51	94-131	TEX., FREEPORT, SAN LUIS PASS, BRAZOS R., CHOCOLATE BAYOU, C-20
95°11.6W	29°16.5N	14/ 1/74	15°23'50	70-009	LA., TEX., GULF OF MEXICO, C-50
95°47.8W	29°08.5N	1/12/73	17°30'16	90-095	TEXAS, FREEPORT, RICHMOND, BRAZOS R., SAN LUIS PASS
95°53.8W	29°12.4N	29/ 1/74	17°37'39	94-129	TEX., WHARTON, COLORADO R., BRAZOS R., FREEPORT, BAY CITY, C-15
95°20.1W	32°35.5N	30/ 1/74	16°53'49	A4-199	TEX., TYLER, LONGVIEW, KILGORE, GLADEWATER, MARSHALL
95°13.2W	32°41.5N	2/12/73	16°46'20	* 52-183	TEX., LA., TYLER, MARSHALL, LONGVIEW, PALESTINE LAKE, C-60
95°12.2W	32°46.1N	2/12/73	16°46'20	90-154	TEXAS, TYLER, LONGVIEW, KILGORE C-40
95°42.5W	32°56.2N	30/ 1/74	16°53'42	94-176	TEX., GREENVILLE, SULPHUR SPRINGS, LAKE TAWAKONI
95°53.1W	33°05.3N	30/ 1/74	16°53'39	A4-198	TEX., OKLA., DALLAS, PARIS, GREENVILLE
95°55.1W	33°14.7N	2/12/73	16°46'07	90-153	TEXAS, BONHAM, HONEY GROVE, SULPHUR R. C-70
95°31.7W	36°21.4N	31/ 1/74	16°09'50	A4-346	OKLA., KAN., ARK., TULSA, ARKANSAS R., BARTLESVILLE, LAKE OF CHEROKEES
95°49.1W	36°06.7N	12/ 1/74	16°51'40	64-283	OKLA., KAN., TULSA, ARKANSAS R., BARTLESVILLE, LAKE OF CHEROKEES, C-20
95°13.9W	36°30.1N	12/ 1/74	16°51'50	64-284	OKLA., KAN., MO., LAKE OF CHEROKEES, JOPLIN, C-30, S-60
95°21.1W	36°08.7N	21/ 1/74	20°08'20	64-384	OKLA., ARK., ARKANSAS R., TULSA, LAKE OF CHEROKEES, C-50
95°46.8W	36°23.5N	3/12/73	16°02'16	90-215	OKLAHOMA, TULSA, ARKANSAS R., KEYSTONE RES. C-75
95°55.7W	36°01.5N	12/ 1/74	16°51'37	92-103	OKLA., TULSA, ARKANSAS R., C-40, S-30
95°33.6W	36°16.1N	12/ 1/74	16°51'44	92-104	OKLA., TULSA, ARKANSAS R., FT. GIBSON RES., DOLOGAH RES., C-40, S-40
95°11.9W	36°30.6N	12/ 1/74	16°51'50	92-105	OKLA., KAN., LAKE OF CHEROKEES, VINITA, NECSHO R., C-20, S-65
95°59.0W	36°32.8N	21/ 1/74	20°08'09	92-288	OKLA., TULSA, ARKANSAS R., BARTLESVILLE, C-60
95°05.3W	38°53.8N	22/ 1/74	19°24'40	70-260	KAN., MO., C-100
95°00.4W	38°50.0N	22/ 1/74	19°24'41	93-144	MO., ARKANSAS
95°43.9W	39°15.6N	22/ 1/74	19°24'30	70-259	KAN., MO., C-95
95°46.8W	39°02.5N	11/ 1/74	17°55'30	92-053	KAN., TOPEKA, KANSAS R., LAWRENCE, S-100
95°20.5W	39°17.7N	11/ 1/74	17°55'36	92-056	KAN., MO., KANSAS CITY, KANSAS R., MISSOURI R., S-100
95°49.5W	39°18.1N	22/ 1/74	19°24'28	93-142	MO., C-95
95°24.4W	39°03.5N	22/ 1/74	19°24'35	93-143	MO., ARKANSAS, C-98
95°31.7W	41°36.3N	30/11/73	16°34'20	* 52-049	IOWA, NEB., OMAHA, MISSOURI R., C-75
95°24.1W	41°33.0N	18/ 1/74	20°40'23	70-157	IOWA, NEB., C-100
95°46.8W	41°42.6N	30/11/73	16°34'17	90-012	NEB.-IA, OMAHA, COUNCIL BLUFFS C-EC
95°21.1W	41°30.2N	30/11/73	16°34'23	90-013	NEB.-IA, OMAHA, COUNCIL BLUFFS C-7C
95°43.2W	41°41.4N	18/ 1/74	20°40'19	92-183	IOWA, C-99
95°17.5W	41°25.1N	18/ 1/74	20°40'25	92-184	IOWA, C-99
95°42.2W	43°42.2N	14/ 1/74	17°03'20	70-133	MINN., IA., PIPESTONE, WORTHINGTON, SLEEPY EYE, S-100
95°26.4W	43°35.3N	24/ 1/74	17°57'22	70-354	S. D., MINN., IA., WORTHINGTON, SPENCER, EMMETSBURG, S-100, C-20
95°32.7W	43°45.6N	14/ 1/74	17°03'21	93-106	MINN., IOWA, WORTHINGTON, WINDOM, S-100
95°37.3W	43°42.5N	24/ 1/74	17°57'19	93-209	MINN., IOWA, WINDOM, WORTHINGTON, TRACY, SLAYTON, S-100
95°09.3W	43°31.5N	24/ 1/74	17°57'25	93-210	IOWA, MINN., WORTHINGTON, FAIRMONT, DES MOINES R., S-100
95°02.7W	44°00.2N	14/ 1/74	17°03'28	93-107	MINN., NEW ULM, FAIRMONT, SLEEPY EYE, MINNESOTA R., S-100
95°52.1W	45°32.8N	20/ 1/74	19°13'00	70-218	MINN., S. D., N. D., C-100
95°04.6W	45°17.1N	20/ 1/74	19°13'10	70-219	MINN., S. D., N. D., C-100
95°13.5W	45°15.3N	20/ 1/74	19°13'08	92-242	N. D., C-100
94°51.5W	8°50.6N	8/ 1/74	16°25'30	64-074	PACIFIC O. SW OF CENTRAL AMERICA, C-10
94°58.1W	8°40.7N	8/ 1/74	16°25'27	89-273	PACIFIC O. OFF CENTRAL AMERICA, C-10
94°43.6W	8°55.4N	8/ 1/74	16°25'33	89-274	PACIFIC O. OFF CENTRAL AMERICA
94°27.7W	9°21.0N	8/ 1/74	16°25'40	64-075	PACIFIC O. SW OF CENTRAL AMERICA, C-20
94°05.0W	9°50.2N	8/ 1/74	16°25'50	64-076	PACIFIC O. SW OF CENTRAL AMERICA, C-30
94°29.4W	9°17.8N	8/ 1/74	16°25'39	89-275	PACIFIC O. OFF CENTRAL AMERICA, C-10
94°14.9W	9°36.4N	8/ 1/74	16°25'45	89-276	PACIFIC O. OFF CENTRAL AMERICA, C-15
94°00.7W	9°54.7N	8/ 1/74	16°25'52	89-277	PACIFIC O. OFF CENTRAL AMERICA, C-20
94°03.7W	11°56.6N	26/ 1/74	19°51'15	92-396	PACIFIC O. OFF MEXICO, C-35
94°39.3W	12°42.3N	26/ 1/74	19°50'59	▲ 76-118	PACIFIC O. OFF MEXICO, C-25
94°47.2W	12°51.1N	26/ 1/74	19°50'56	92-393	PACIFIC O. OFF MEXICO, C-30
94°32.3W	12°32.5N	26/ 1/74	19°51'02	92-394	PACIFIC O. OFF MEXICO, C-30
94°17.8W	12°14.5N	26/ 1/74	19°51'08	92-395	PACIFIC O. OFF MEXICO, C-30
94°59.7W	14°36.2N	7/ 1/74	17°10'00	89-185	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
94°44.9W	14°54.5N	7/ 1/74	17°10'06	89-186	PACIFIC O. SW OF TEHUANTEPEC, MEXICO
94°36.0W	15°06.0N	7/ 1/74	17°10'10	64-015	PACIFIC O. SOUTH OF TEHUANTEPEC MEXICO, C-12
94°12.9W	15°33.5N	7/ 1/74	17°10'20	64-016	MEXICO (OAXACA-CHIAPAS), MAR MUERTO, TONALA, C-15

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
94°29.7W	15°12.6N	7/ 1/74	17°10'12	89-187	PACIFIC O. SW OF TEHUANTEPEC, MEXICO, C-1C
94°12.2W	16°42.1N	27/ 1/74	19°06'59	76-247	OAXACA, CHIAPAS, MAR MUERTO, CALUNA INFERIOR, UNION HIDALGO, C-30
94°16.2W	17°54.2N	1/ 2/74	17°07'26	48-098	MEXICO (VERA CRUZ-OAXACA) RIO COATZACOALCOS, MINATITLAN, C-60
94°01.4W	17°37.2N	1/ 2/74	17°07'32	48-099	MEXICO (VERA CRUZ-OAXACA- CHIAPAS) NATZAHUALCOYOTL RES., C-75
94°40.9W	17°07.7N	27/ 1/74	19°06'49	76-246	OAXACA, VERA CRUZ, ISTHMUS OF TEHUANTEPEC, IXTAPEPEC, C-50
94°05.3W	17°44.5N	4/12/73	16°59'54	90-333	VERACRUZ-TABASCO-CHIAPAS, COATZACOALCOS, RIO REDREGAL
94°47.2W	17°11.5N	27/ 1/74	19°06'46	94-047	OAXACA, VERA CRUZ, MATIAS ROMERO, RIO COATZACOALCOS
94°19.8W	17°57.4N	1/ 2/74	17°07'24	94-289	VERA CRUZ, TABASCO, COATZACOALCOS, MINATITLAN, LAGO TEXCULAPA, C-60
94°04.3W	17°39.3N	1/ 2/74	17°07'31	94-290	VERA CRUZ, TABASCO, ISTHMUS OF TEHUANTEPEC, C-80
94°46.2W	18°28.7N	1/ 2/74	17°07'14	48-096	MEXICO (VERA CRUZ) COATZACOALCOS, GULF OF MEXICO, C-40
94°01.4W	18°11.6N	1/ 2/74	17°07'20	48-097	MEXICO (VERA CRUZ) COATZACOALCOS, RIO COATZACOALCOS, C-50
94°52.1W	18°35.6N	4/12/73	16°59'35	90-330	VERACRUZ, LAGO CATEMACO, SANTIAGO TLXLA C-1E
94°36.6W	18°22.5N	4/12/73	16°59'41	90-331	VERACRUZ, COATZACOALCOS, RIO COATZACOALCOS, MINATITLAN C-12
94°21.1W	18°05.2N	4/12/73	16°59'48	90-332	VERACRUZ-TABASCO, COATZACOALCOS, RIO LSPAUPA C-10
94°50.8W	18°32.5N	1/ 2/74	17°07'12	94-287	VERA CRUZ, LAGO CATEMACO, CATEMACO, C-40
94°35.3W	18°15.1N	1/ 2/74	17°07'18	94-288	VERA CRUZ, LAGO CATEMACO, COATZACOALCOS, C-50
94°54.1W	20°14.2N	6/ 1/74	17°54'30	58-342	GULF OF MEXICO, C-40
94°28.4W	20°42.5N	6/ 1/74	17°54'40	58-343	GULF OF MEXICO, C-35
94°44.9W	20°23.4N	6/ 1/74	17°54'33	91-347	GULF OF MEXICO, C-40
94°26.7W	20°43.2N	6/ 1/74	17°54'40	91-348	GULF OF MEXICO, C-30
94°18.2W	23°05.4N	28/ 1/74	18°22'21	A4-047	GULF OF MEXICO C-40
94°02.0W	27°34.2N	1/12/73	17°30'52	* 52-131	GULF OF MEXICO
94°15.9W	27°45.6N	1/12/73	17°30'47	90-100	GULF OF MEXICO
94°31.0W	28°00.7N	1/12/73	17°30'42	* 52-130	GULF OF MEXICO
94°53.8W	28°20.2N	1/12/73	17°30'34	90-098	GULF OF MEXICO
94°34.7W	28°02.5N	1/12/73	17°30'41	90-099	GULF OF MEXICO
94°58.1W	28°22.7N	25/ 1/74	17°37'58	94-132	GULF OF MEXICO, C-60
94°41.2W	25°43.4N	14/ 1/74	15°24'00	70-010	LA., GULF OF MEXICO, C-50
94°10.9W	30°05.3N	14/ 1/74	15°24'10	70-011	LA., C-100
94°16.5W	31°45.6N	30/ 1/74	16°54'09	A4-201	TEX., LA., MARSHALL, SHREVEPORT, NACOGDOCHES, LAKE RAYBURN
94°10.6W	31°50.3N	2/12/73	16°46'40	* 52-184	TEX., LA., SHREVEPORT, MARSHALL, TOLEDO BEND LAKE, RED R.
94°16.2W	31°46.5N	30/ 1/74	16°54'09	94-178	TEX., LA., NACOGDOCHES, LAKE RAYBURN, TOLEDO BEND RES.
94°48.2W	32°14.5N	30/ 1/74	16°53'59	A4-200	TEX., TYLER, LONGVIEW, PALESTINE, MARSHALL
94°31.0W	32°06.1N	2/12/73	16°46'34	90-155	TEX.-LA., MARSHALL, NACOGDOCHES, CARTHAGE, HENDERSON
94°59.4W	32°22.6N	30/ 1/74	16°53'55	94-177	TEX., TYLER, LONGVIEW, KILGORE, HENDERSON
94°56.4W	35°57.6N	31/ 1/74	16°10'00	A4-347	OKLA., ARD., MO., MUSKOGEE, FT. SMITH, LAKE OF CHEROKEES, FAYETTEVILLE
94°21.8W	35°34.1N	31/ 1/74	16°10'10	A4-348	OKLA., ARK., FT. SMITH, FAYETTEVILLE, ARKANSAS R., BOSTON MTS.
94°10.9W	35°15.5N	3/12/73	16°02'43	* 52-237	LA., ARK., C-93
94°11.3W	35°21.4N	21/ 1/74	20°08'40	54-385	ARK., ARKANSAS R., DARDANELLE RES., OUACHITA MTS., C-35
94°59.4W	35°52.1N	3/12/73	16°02'29	90-216	ARK.-OKLA. C-88
94°13.2W	35°20.6N	3/12/73	16°02'43	90-217	ARKANSAS C-93
94°56.1W	35°51.2N	21/ 1/74	20°08'27	92-289	ARK., OKLA., BOSTON MTS., TENKILLER FERRY LAKE, C-40
94°08.9W	35°19.1N	21/ 1/74	20°08'41	92-290	ARK., OKLA., ARKANSAS R., FT., SMITH, OUACHITA MTS., C-40
94°37.9W	36°53.5N	12/ 1/74	16°52'00	64-285	OKLA., KAN., MO., JOPLIN, NEOSHO R., TABLE ROCK RES., C-40, S-60
94°49.5W	36°45.5N	12/ 1/74	16°51'56	92-106	OKLA., KAN., MO., LAKE OF CHEROKEE'S, MIAMI, NEOSHO R., C-40, S-80
94°01.7W	37°16.4N	12/ 1/74	16°52'10	64-286	MO., SPRINGFIELD, TABLE ROCK RES., POMME DE TERRE RES., C-40, S-80
94°26.1W	37°00.0N	12/ 1/74	16°52'03	92-107	OKLA., KAN., MO., LAKE OF CHEROKEE'S, NEOSHO R., C-65, S-100
94°04.3W	37°13.6N	12/ 1/74	16°52'09	92-108	MO., KAN., NEOSHO R., C-80, S-100
94°27.4W	38°31.7N	22/ 1/74	19°24'50	70-261	KAN., MO., C-100
94°54.4W	39°32.4N	11/ 1/74	17°35'42	92-055	KAN., MO., KANSAS CITY, MISSOURI R., ST. JOSEPH, S-100, C-10
94°31.4W	39°44.5N	11/ 1/74	17°35'48	92-056	KAN., MO., ST. JOSEPH, CAMERON, PLATTSBURG, MISSOURI R., S-100, C-30
94°07.0W	39°58.1N	11/ 1/74	17°35'54	92-057	MO., GALLATIN, GRAND R., C-50, S-100
94°08.9W	40°55.6N	30/11/73	16°34'40	* 52-051	IOWA, DES MOINES, DES MOINES R., C-65
94°01.7W	40°52.5N	18/ 1/74	20°40'43	70-159	IOWA, NEB., C-100
94°04.7W	40°52.6N	30/11/73	16°34'41	90-016	MO-IA, OSCEOLA, PRINCETON, LEON C-50
94°50.5W	41°16.4N	30/11/73	16°34'30	* 52-050	IOWA, NEB., DES MOINES, MISSOURI R., ATLANTIC, C-70
94°42.6W	41°12.5N	18/ 1/74	20°40'33	70-158	IOWA, NEB., C-100
94°55.4W	41°17.5N	30/11/73	16°34'29	90-014	IOWA, GREENFIELD, CORNING C-50
94°30.4W	41°05.5N	30/11/73	16°34'35	90-015	IOWA, CRESTON C-60
94°51.1W	41°16.2N	18/ 1/74	20°40'31	92-185	IOWA, C-100
94°25.1W	41°03.4N	18/ 1/74	20°40'37	92-186	IOWA, MISSOURI, C-100
94°42.2W	43°21.1N	24/ 1/74	17°57'32	70-355	IA., MINN., DES MOINES R., FT. DODGE, S-100, C-10
94°41.9W	43°20.1N	24/ 1/74	17°57'32	93-211	IOWA, MINN., ALGONA, ESTERVILLE, FAIRMONT, S-100
94°13.6W	43°08.4N	24/ 1/74	17°57'38	93-212	IOWA, MINN., FAIRMONT, ALGONA, HUMBOLDT, S-100
94°55.4W	44°04.5N	14/ 1/74	17°03'30	70-134	MINN., MINNESOTA R., MANKATO, LE SEUER, GLENCOE, S-100
94°07.0W	44°26.6N	14/ 1/74	17°03'40	70-135	MINN., MINNEAPOLIS, MINNESOTA R., MANKATO, S-100, C-20
94°11.6W	44°57.5N	20/ 1/74	19°13'22	92-243	N. D., MINN., C-100
94°31.7W	44°14.2N	14/ 1/74	17°03'34	93-108	MINN., MINNESOTA R., NEW ULM, S-100
94°02.0W	44°27.5N	14/ 1/74	17°03'40	93-109	MINN., MINNESOTA R., MANKATO, GLENCOE, S-100
94°17.8W	45°00.8N	20/ 1/74	19°13'20	70-220	MINN., C-100
94°45.2W	45°09.5N	25/ 1/74	17°14'00	* 76-001	MINN., ST. CLOUD, MISSISSIPPI R., S-100, C-60
93°42.3W	10°19.6N	8/ 1/74	16°26'00	64-077	PACIFIC O. SW OF CENTRAL AMERICA, C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
93°19.2W	10°48.8N	8/ 1/74	16°26'10	64-078	PACIFIC O. SW OF CENTRAL AMERICA, C-25
93°05.3W	10°44.5N	26/ 1/74	19°51'40	▲ 76-120	PACIFIC O. OFF MEXICO, C-12
93°46.5W	10°12.5N	8/ 1/74	16°25'58	89-278	PACIFIC O. OFF CENTRAL AMERICA, C-2C
93°32.0W	10°31.1N	8/ 1/74	16°26'04	89-279	PACIFIC O. OFF CENTRAL AMERICA, C-2C
93°18.2W	10°49.1N	8/ 1/74	16°26'10	89-280	PACIFIC O. OFF CENTRAL AMERICA, C-15
93°05.0W	10°43.4N	26/ 1/74	19°51'40	92-400	PACIFIC O. OFF MEXICO, C-15, FOGGED, TAPE
93°52.5W	11°43.8N	26/ 1/74	19°51'19	▲ 76-119	PACIFIC O. OFF MEXICO, C-30
93°03.4W	11°07.7N	8/ 1/74	16°26'17	89-281	PACIFIC O. OFF CENTRAL AMERICA, C-15
93°48.8W	11°38.1N	26/ 1/74	19°51'21	92-397	PACIFIC O. OFF MEXICO, C-35
93°34.0W	11°15.6N	26/ 1/74	19°51'27	92-398	PACIFIC O. OFF MEXICO, C-20
93°19.5W	11°01.1N	26/ 1/74	19°51'34	92-399	PACIFIC O. OFF MEXICO, C-10 PARTIAL FOG
93°11.9W	15°46.2N	27/ 1/74	19°07'20	76-249	CHIAPAS, TUXLA GUTIERREZ, MAR MUERTO, PIJIZAPAN, C-30
93°16.9W	16°45.4N	1/ 2/74	17°07'50	48-102	MEXICO (CHIAPAS), TUXLA GUTIERREZ, SAN CRISTOBAL DE LAS CASAS, C-60
93°02.4W	16°28.1N	1/ 2/74	17°07'56	48-103	MEXICO (CHIAPAS), TUXLA GUTIERREZ, SAN CRISTOBAL DE LAS CASAS, C-50
93°48.8W	16°02.7N	7/ 1/74	17°10'30	64-017	MEXICO (OAXACA-CHIAPAS), MAR MUERTO, LAGUNA DE LA JOYA, C-25
93°24.5W	16°31.6N	7/ 1/74	17°10'40	64-018	MEXICO (OAXACA-CHIAPAS), TUXLA GUTIERREZ, CINTALPA, C-45
93°43.9W	16°16.7N	27/ 1/74	19°07'09	76-248	OAXACA, CHIAPAS, MAR MUERTO, TONALA, CINTALAPA, C-25
93°49.2W	16°00.5N	7/ 1/74	17°10'29	89-188	MEXICO, MAR MUERTO, TONALA, C-2C
93°34.0W	16°15.2N	7/ 1/74	17°10'35	89-189	MEXICO (CHIAPAS, OAXACA) MAR MUERTO, CINTALAPA, C-20
93°18.9W	16°37.1N	7/ 1/74	17°10'42	89-190	MEXICO (CHIAPAS, OAXACA) TUXLA GUTIERREZ, CINTALAPA, C-35
93°03.7W	16°54.8N	7/ 1/74	17°10'48	89-191	MEXICO (CHIAPAS, TUXLA GUTIERREZ, RIO TACCTALPA, C-35
93°19.2W	16°52.2N	4/12/73	17°00'13	90-336	CHIAPAS, TUXCA GUTIERREZ, NETZABUALCOYOT RES., OCUZ COAUTLA C-10
93°03.7W	16°34.1N	4/12/73	17°00'19	90-337	CHIAPAS, TUXCA GUTIERREZ, RIO GRIJALVA C-10
93°17.5W	16°45.1N	1/ 2/74	17°07'50	94-293	OAXACA, CHIAPAS, MAL PASO RES., TUXLA GUTIERREZ, C-40
93°02.4W	16°27.1N	1/ 2/74	17°07'56	94-294	CHIAPAS, TUXLA GUTIERREZ, RIO GRIJALVA, C-2C
93°46.9W	17°20.0N	1/ 2/74	17°07'38	48-100	MEXICO (VERA CRUZ-OAXACA- CHIAPAS) NATZAHUALCOYOTL RES., C-75
93°32.0W	17°03.1N	1/ 2/74	17°07'44	48-101	MEXICO (VERA CRUZ-OAXACA- CHIAPAS) NATZAHUALCOYOTL RES., C-75
93°00.1W	17°00.4N	7/ 1/74	17°10'50	64-019	MEXICO (CHIAPAS), TUXLA GUTIERREZ, CHIAPA DE CORZO, C-50
93°50.5W	17°28.5N	4/12/73	17°00'00	90-334	VERACRUZ-TABASCO-CHIAPAS, NETZABUALCOYOT RES., RIO GRIJALVA
93°35.0W	17°10.5N	4/12/73	17°00'06	90-335	VERACRUZ-TABASCO-CHIAPAS, NETZABUALCOYOT RES., RIO GRIJALVA
93°48.8W	17°21.5N	1/ 2/74	17°07'37	94-291	VERA CRUZ, TABASCO, OAXACA, CHIAPAS, MAL PASO RES., C-80
93°33.4W	17°03.4N	1/ 2/74	17°07'43	94-292	OAXACA, CHIAPAS, VERA CRUZ, MAL PASO RES., TUXLA GUTIERREZ, C-60
93°04.0W	21°55.5N	5/12/73	16°15'52	* 52-343	GULF OF MEXICO, C-70
93°36.6W	21°36.1N	6/ 1/74	17°55'00	58-344	GULF OF MEXICO, C-35
93°55.4W	21°17.5N	6/ 1/74	17°54'52	91-349	GULF OF MEXICO, C-40
93°20.3W	21°54.5N	6/ 1/74	17°55'05	91-350	GULF OF MEXICO, C-35
93°25.8W	22°10.1N	28/ 1/74	18°22'41	▲ 04-048	GULF OF MEXICO C-40
93°56.8W	22°51.6N	5/12/73	16°15'32	* 52-342	GULF OF MEXICO, C-60
93°21.2W	26°54.7N	1/12/73	17°31'06	90-103	GULF OF MEXICO C-15
93°02.7W	26°37.4N	1/12/73	17°31'13	90-104	GULF OF MEXICO C-25
93°14.9W	26°47.4N	29/ 1/74	17°38'34	94-134	GULF OF MEXICO, C-60
93°33.7W	27°07.5N	1/12/73	17°31'02	* 52-132	GULF OF MEXICO C-20
93°57.1W	27°26.4N	1/12/73	17°30'54	90-101	GULF OF MEXICO
93°39.0W	27°11.3N	1/12/73	17°31'00	90-102	GULF OF MEXICO
93°53.1W	27°23.5N	29/ 1/74	17°38'20	94-133	GULF OF MEXICO, C-40
93°13.9W	30°58.7N	30/ 1/74	16°54'29	44-203	TEX., LA., LAKE RAYBURN, TOLEDO BEND LAKE, LAKE CHARLES
93°09.0W	30°57.6N	2/12/73	16°47'00	* 52-186	TEX., LA., RED R., ALEXANDRIA, TOLEDO BEND RES., LAKE CHARLES
93°40.3W	30°35.5N	14/ 1/74	15°24'20	70-012	MISS., LA., C-100
93°44.9W	31°24.3N	30/ 1/74	16°54'19	44-202	TEX., LA., LAKE RAYBURN, TOLEDO BEND LAKE, NACOGDOCHES
93°39.9W	31°24.3N	2/12/73	16°46'50	* 52-185	TEX., LA., NATCHITOCHES, RED R., TOLEDO BEND RES. RAYBURN RES.
93°09.3W	31°00.7N	14/ 1/74	15°24'30	70-013	MISS., LA., C-100
93°35.3W	31°15.4N	30/ 1/74	16°54'22	94-179	TEX., LA., TOLEDO BEND RES., LAKE RAYBURN, FT. POLK
93°13.2W	34°46.1N	31/ 1/74	16°10'30	44-350	ARK., LITTLE ROCK, ARKANSAS R., OLICHTA MTS., HOT SPRINGS
93°02.7W	34°31.1N	3/12/73	16°03'03	* 52-238	MISS., LA., ARK., C-99
93°02.7W	34°33.1N	21/ 1/74	20°09'00	64-386	ARK., LITTLE ROCK, ARKANSAS R., HOT SPRINGS, OLICHTA MTS.
93°27.7W	34°48.6N	3/12/73	16°02'56	90-218	ARKANSAS C-99
93°23.1W	34°46.8N	21/ 1/74	20°08'54	92-291	ARK., HOT SPRINGS, OLICHTA MTS., DARDANELLE LAKE
93°47.2W	35°10.1N	31/ 1/74	16°10'20	44-349	OKLA., ARK., OLICHTA MTS., FT. SMITH, ARKANSAS R., DARDANELLS RES.
93°25.1W	37°39.2N	12/ 1/74	16°52'20	64-287	MO., LAKE OF THE OZARKS, OSAGE R., GASCONADE R., C-40, S-100
93°12.6W	37°46.5N	22/ 1/74	19°25'10	70-263	KAN., MO., C-100
93°41.6W	37°28.1N	12/ 1/74	16°52'15	92-109	MO., KAN., SPRING R., C-90, S-100
93°18.5W	37°42.3N	12/ 1/74	16°52'21	92-110	MO., SAC R., C-90, S-100
93°49.5W	38°09.5N	22/ 1/74	19°25'00	70-262	KAN., MO., C-100
93°28.7W	40°35.2N	30/11/73	16°34'50	* 52-052	MO., IOWA, DES MOINES R., OSCEOLA, OSKALOOSA, C-60
93°21.5W	40°31.7N	18/ 1/74	20°40'53	70-160	IOWA, NEB., C-100
93°39.0W	40°35.6N	30/11/73	16°34'48	90-017	MO-IA, RATHBURN RES., PRINCETON, MILAN C-40
93°14.6W	40°26.5N	30/11/73	16°34'54	90-018	MO-IA, RATHBURN RES., CENTERVILLE, LOCUST CREEK C-30
93°41.9W	40°11.4N	11/ 1/74	17°36'01	92-058	MO., IOWA, GRAND K., C-75, S-100
93°18.9W	40°23.6N	11/ 1/74	17°36'07	92-059	MO., IOWA, C-80, S-100
93°59.4W	40°50.5N	18/ 1/74	20°40'44	92-187	IOWA, MISSOURI, C-100
93°32.7W	40°36.8N	18/ 1/74	20°40'50	92-188	IOWA, MISSOURI, C-100
93°08.0W	40°24.1N	18/ 1/74	20°40'56	92-189	IOWA, MISSOURI, C-100
93°14.9W	42°44.1N	24/ 1/74	17°57'52	70-357	IA., MINN., MASON CITY, WATERLOO, CEDAR R., S-100
93°46.5W	42°56.5N	24/ 1/74	17°57'44	93-213	IOWA, MASON CITY, ALGONA, CLARION, S-100
93°18.9W	42°44.5N	24/ 1/74	17°57'51	93-214	IOWA, MASON CITY, IOWA FALLS, BOONE R., S-100
93°58.4W	43°02.7N	24/ 1/74	17°57'42	70-356	IA., MINN., DES MOINES R., FT. DODGE, MASON CITY, S-100, C-10

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
93°18.9W	44°45.5N	14/ 1/74	17°03'50	70-136	MINN., WISC., MINNEAPOLIS, ST. PAUL, MISSISSIPPI R., ST. CROIX R., S-10
93°31.0W	44°44.3N	20/ 1/74	19°13'30	70-221	MINN., C-100
93°58.6W	44°53.3N	25/ 1/74	17°14'10	▲ 76-002	MINN., WISC., MINNEAPOLIS-ST. PAUL, MISSISSIPPI R., ST. CROIX R.
93°11.9W	44°36.8N	25/ 1/74	17°14'20	▲ 76-003	MINN., WISC., MINNEAPOLIS-ST. PAUL, MISSISSIPPI R., RED WING, S-100
93°41.6W	44°47.3N	20/ 1/74	19°13'28	92-244	MINN., C-100
93°13.2W	44°37.1N	20/ 1/74	19°13'34	92-245	MINN., C-100
93°32.4W	44°42.2N	14/ 1/74	17°03'47	93-110	MINN., WISC., MINNEAPOLIS-ST. PAUL, MISSISSIPPI R., S-100
93°01.4W	44°56.7N	14/ 1/74	17°03'53	93-111	MINN., WISC., MINNEAPOLIS-ST. PAUL, MISSISSIPPI R., CROIX R., S-100
92°19.2W	9°45.5N	26/ 1/74	19°51'59	▲ 76-121	PACIFIC O. OFF MEXICO
92°56.1W	11°18.1N	8/ 1/74	16°26'20	64-079	PACIFIC O. SW OF CENTRAL AMERICA, C-20
92°33.0W	11°47.3N	8/ 1/74	16°26'30	64-080	PACIFIC O. SW OF CENTRAL AMERICA, C-10
92°48.5W	11°26.5N	8/ 1/74	16°26'23	89-282	PACIFIC O. OFF CENTRAL AMERICA, C-15
92°34.0W	11°44.7N	8/ 1/74	16°26'29	89-283	PACIFIC O. OFF CENTRAL AMERICA
92°09.6W	12°16.3N	8/ 1/74	16°26'40	64-081	PACIFIC O. SW OF CENTRAL AMERICA,
92°19.2W	12°03.4N	8/ 1/74	16°26'36	89-284	PACIFIC O. OFF CENTRAL AMERICA
92°04.7W	12°21.2N	8/ 1/74	16°26'42	89-285	PACIFIC O. OFF CENTRAL AMERICA
92°19.2W	14°59.3N	27/ 1/74	19°07'39	76-251	MEXICO (CHIAPAS), GUATEMALA, TAPACHULA, TUXLA CHICO, CHAMPERICO, C-35
92°33.0W	15°53.3N	1/ 2/74	17°08'08	48-105	MEXICO (CHIAPAS), GUATEMALA, TAPACHULA, RIO GRIJALVA, EL COTAL, C-20
92°18.5W	15°36.6N	1/ 2/74	17°08'14	48-106	MEXICO (CHIAPAS), GUATEMALA, HUEHUETENANGO, TAPACHULA, C-20
92°04.4W	15°18.5N	1/ 2/74	17°08'20	48-107	MEXICO (CHIAPAS), GUATEMALA, QUETZALTENANGO, TAPACHULA, C-20
92°47.2W	15°25.3N	27/ 1/74	19°07'29	76-250	CHIAPAS, TAPACHULA, RIO GRIJALVA, C-3C
92°34.0W	15°56.4N	4/12/73	17°00'31	90-339	CHIAPAS, RIO GRIJALVA, NUEVO MEXICO, LA CONCORDIA
92°18.5W	15°40.6N	4/12/73	17°00'37	90-340	MEXICO-GUATEMALA, RIO CUILCO, MOTOZINTLA, RIO GRIJALVA C-14
92°03.7W	15°22.5N	4/12/73	17°00'44	90-341	MEXICO-GUATEMALA, RIO CUILCO, MOTOZINTLA, HUEHUETENANGO C-12
92°32.1W	15°51.1N	1/ 2/74	17°08'08	94-296	CHIAPAS, RIO GRIJALVA, SIERRA SOCONUSCO, C-15
92°16.9W	15°33.1N	1/ 2/74	17°08'15	94-297	GUATEMALA, MEXICO (CHIAPAS), RIO SELEGUA, MOTOZINTLA DE MENDOZA, C-15
92°02.1W	15°15.1N	1/ 2/74	17°08'21	94-298	GUATEMALA, MEXICO (CHIAPAS), TUXLA CHICO, TAPACHULA, C-25
92°47.9W	16°11.1N	1/ 2/74	17°08'02	48-104	MEXICO (CHIAPAS), PACIFIC O., TUXLA GUTIERREZ, COMITAN, C-40
92°48.5W	16°16.2N	4/12/73	17°00'25	90-338	CHIAPAS, TUXLA GUTIERREZ, RIO GRIJALVA, SIERRA SOCONUSCO
92°47.2W	16°05.6N	1/ 2/74	17°08'02	94-295	CHIAPAS, VENUSTIANO, CARRANZA, RIO GRIJALVA, C-12
92°35.3W	17°25.1N	7/ 1/74	17°11'00	64-020	MEXICO (CHIAPAS), RIO TACOTALPA, SAN CRISTOBAL DE LAS CASAS, C-60
92°11.0W	17°57.4N	7/ 1/74	17°11'10	54-021	MEXICO (CHIAPAS), TABASCO, RIO SAN ANTONIO, PALENCUE, C-50
92°48.5W	17°12.6N	7/ 1/74	17°10'54	89-192	MEXICO (CHIAPAS), RIO TACOTALPA, RIO USMACINTA, C-30
92°33.7W	17°29.7N	7/ 1/74	17°11'00	89-193	MEXICO (CHIAPAS), TABASCO, RIO TACOTALPA, RIO TULIJA, C-35
92°17.9W	17°48.6N	7/ 1/74	17°11'06	89-194	MEXICO (TABASCO-CAMPECHE), RIO USMACINTA, RIO TULIJA, C-40
92°02.7W	18°05.8N	7/ 1/74	17°11'13	89-195	MEXICO (TABASCO-CAMPECHE), RIO USMACINTA, BAHIA TERMINUS, C-45
92°33.7W	21°14.4N	28/ 1/74	18°23'01	A4-049	GULF OF MEXICO, C-30
92°43.9W	22°34.8N	6/ 1/74	17°55'20	58-345	GULF OF MEXICO, C-30
92°45.2W	22°32.3N	6/ 1/74	17°55'19	91-351	GULF OF MEXICO, C-40
92°09.6W	23°05.5N	6/ 1/74	17°55'32	91-352	GULF OF MEXICO, C-30
92°11.0W	25°47.6N	1/12/73	17°31'31	90-107	GULF OF MEXICO C-30
92°37.0W	26°13.8N	1/12/73	17°31'22	* 52-133	GULF OF MEXICO C-35
92°44.2W	26°19.6N	1/12/73	17°31'19	90-105	GULF OF MEXICO C-30
92°27.4W	26°03.6N	1/12/73	17°31'25	90-106	GULF OF MEXICO C-25
92°36.7W	26°11.3N	25/ 1/74	17°38'47	94-135	GULF OF MEXICO, C-40
92°01.1W	29°58.4N	2/12/73	16°47'22	90-159	LOUISIANA, LAFAYETTE, VERMILLION BAY, ATCHAFALAYA R. C-10
92°42.9W	30°33.6N	30/ 1/74	16°54'39	A4-204	LA., ALEXANDRIA, RED R., LAKE CHARLES, LAFAYETTE
92°12.3W	30°07.1N	30/ 1/74	16°54'49	A4-205	LA., LAFAYETTE, ABBEVILLE, VERMILLION LAKE, ATCHAFALAYA R.
92°38.6W	30°31.5N	2/12/73	16°47'10	* 52-187	LA., LAKE CHARLES, LAFAYETTE, OPELOUSAS, ATCHAFALAYA R., C-12
92°08.0W	30°05.5N	2/12/73	16°47'20	* 52-188	LA., ATCHAFALAYA R., LAFAYETTE, NEW IBERIA, VERMILLION BAY, C-15
92°58.1W	30°47.4N	2/12/73	16°47'04	90-156	LOUISIANA, FT. POLK, DE RIDDER, KINDER, EUNICE
92°39.3W	30°31.6N	2/12/73	16°47'10	90-157	LOUISIANA, LAFAYETTE, OPELOUSAS, JENNINGS, OAKDALE C-10
92°20.2W	30°14.6N	2/12/73	16°47'16	90-158	LOUISIANA, LAFAYETTE, NEW IBERIA, ABBEVILLE, AVERY ISLAND C-15
92°52.8W	30°40.3N	30/ 1/74	16°54'36	94-180	LA., DE RIDDER, OAKDALE, LAKE CHARLES, KINDER
92°11.3W	30°05.3N	30/ 1/74	16°54'49	94-181	LA., LAFAYETTE, NEW IBERIA, VERMILLION BAY, ABBEVILLE
92°38.3W	31°26.2N	14/ 1/74	15°24'40	70-014	MISS., LA., C-100
92°06.7W	31°51.6N	14/ 1/74	15°24'50	70-015	MISS., LA., C-100
92°06.0W	33°57.6N	31/ 1/74	16°10'50	A4-352	ARK., MISS., MISSISSIPPI R., LITTLE ROCK, PINE BLUFF, ARKANSAS R.
92°39.3W	34°21.6N	31/ 1/74	16°10'40	A4-351	ARK., LITTLE ROCK, ARKANSAS R., PINE BLUFF, HOT SPRINGS
92°42.6W	34°16.3N	3/12/73	16°03'09	90-219	ARKANSAS C-100
92°37.7W	34°14.2N	21/ 1/74	20°09'07	92-292	ARK., PINE BLUFF, ARKANSAS R., FORDYCE
92°35.7W	37°24.2N	22/ 1/74	19°25'20	70-264	MO., C-100
92°55.8W	37°56.3N	12/ 1/74	16°52'27	92-111	MO., LAKE OF THE OZARKS, OSAGE R., C-80, S-100
92°47.9W	38°01.5N	12/ 1/74	16°52'30	64-288	MO., LAKE OF THE OZARKS, OSAGE R., MISSOURI R., C-20, S-100
92°09.1W	38°24.3N	12/ 1/74	16°52'40	64-289	MO., MISSOURI R., OSAGE R., LAKE OF THE OZARKS, C-15, S-100
92°30.4W	38°11.6N	12/ 1/74	16°52'34	92-112	MO., OSAGE R., JEFFERSON CITY, MISSOURI R., C-60, S-100
92°07.0W	38°25.5N	12/ 1/74	16°52'40	92-113	MO., MISSOURI R., OSAGE R., JEFFERSON CITY, C-40, S-100
92°09.0W	39°53.6N	30/11/73	16°35'10	* 52-054	ILL., MO., IOWA, QUINCY, MISSISSIPPI R., MONROE CITY, C-60
92°01.7W	39°45.7N	18/ 1/74	20°41'13	70-162	MO., ILL., C-100
92°00.1W	39°47.4N	30/11/73	16°35'13	90-021	MO-ILL., FANNIBAL, QUINCY, MISSISSIPPI R., SALT R. C-65
92°18.9W	39°56.1N	18/ 1/74	20°41'09	92-191	MISSOURI, C-100
92°48.9W	40°14.4N	30/11/73	16°35'00	* 52-053	ILL., MO., IOWA, MISSISSIPPI R., DES MOINES R., OTTUMWA, C-60

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
92°41.3W	40°11.0N	18/ 1/74	20°41'03	70-161	MO., C-100
92°49.8W	40°13.5N	30/11/73	16°35'00	90-019	MO-1A, CENTERVILLE, KIRKSVILLE, RATHBURN RES. C-40
92°24.5W	40°00.4N	30/11/73	16°35'06	90-020	MISSOURI, KIRKSVILLE, LA PLATA, MACON, SALT R. C-40
92°55.5W	40°35.7N	11/ 1/74	17°36'13	92-060	MO., IOWA, OTTUMWA, DES MOINES R., C-7C, S-100
92°42.9W	40°11.0N	18/ 1/74	20°41'03	92-190	MISSOURI, C-100
92°32.1W	42°24.5N	24/ 1/74	17°58'02	70-358	IA., WATERLOO, IOWA R., CEDAR R.
92°52.5W	42°33.3N	24/ 1/74	17°57'57	93-215	IOWA, WATERLOO, CEDAR R. MARSHALLTOWN, IOWA FALLS, S-100
92°25.5W	42°21.3N	24/ 1/74	17°58'03	93-216	IOWA, WATERLOO, CEDAR R. INDEPENDENCE, MARSHALLTOWN, S-100
92°44.9W	44°27.5N	20/ 1/74	19°13'40	70-222	MINN., C-100
92°26.1W	44°19.8N	25/ 1/74	17°14'30	▲ 76-004	MINN., WISC., MISSISSIPPI R., CHIPPEWA R., RED WING, S-95
92°45.2W	44°26.5N	20/ 1/74	19°13'40	92-246	MINN., C-100
92°16.6W	44°16.0N	20/ 1/74	19°13'46	92-247	MINN., C-100
92°30.4W	45°12.2N	14/ 1/74	17°04'00	70-137	MINN., WISC., TWIN CITIES, ST. CROIX R., MISS. R., S-100
92°31.7W	45°10.6N	14/ 1/74	17°03'59	93-112	MINN., WISC., MISSISSIPPI R., CROIX R., RIVER FALLS, HALDWIN, S-100
92°01.1W	45°24.4N	14/ 1/74	17°04'05	93-113	WISC., RICE LAKE, RED CEDAR R., HAY R.
91°46.2W	12°45.5N	8/ 1/74	16°26'50	64-082	PACIFIC O. SW OF CENTRAL AMERICA.
91°50.2W	12°39.4N	8/ 1/74	16°26'48	89-286	PACIFIC O. OFF CENTRAL AMERICA
91°35.4W	12°57.7N	8/ 1/74	16°26'54	89-287	PACIFIC O. OFF CENTRAL AMERICA
91°22.8W	13°14.5N	8/ 1/74	16°27'00	64-083	GUATEMALA, NUEVO VALENCIA, RIO NAHLALATE, OVEREXPOSED
91°21.5W	13°15.1N	8/ 1/74	16°27'00	89-288	GUATEMALA, PACIFIC O.
91°06.4W	13°33.7N	8/ 1/74	16°27'07	89-289	GUATEMALA, SAN JOSE, ISTAPA, SIPACATE
91°35.4W	14°43.8N	1/ 2/74	17°08'32	48-109	MEXICO (CHIAPAS), GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, C-30
91°20.9W	14°26.5N	1/ 2/74	17°08'38	48-110	GUATEMALA, LAGO ATITLAN, VOLCAN ACUA-FUEGO-ACATANANGO, C-30
91°06.1W	14°05.2N	1/ 2/74	17°08'44	48-111	GUATEMALA, LAGO ATITLAN, LAGO AMATITLAN, ANTIGUA GUATEMALA, C-25
91°51.8W	14°33.2N	27/ 1/74	19°07'48	76-252	MEXICO (CHIAPAS), GUATEMALA, TAPACHULA, TIQUISATE, C-50
91°24.8W	14°06.4N	27/ 1/74	19°07'58	76-253	GUATEMALA, TIQUISATE, LA GOMERA, C-55
91°33.7W	14°46.4N	4/12/73	17°00'56	90-343	GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, SANTA CRUZ DE QUICHE C-17
91°18.9W	14°28.5N	4/12/73	17°01'02	90-344	GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, PATZUN, SANTA LUCIA C-21
91°03.7W	14°05.8N	4/12/73	17°01'09	90-345	GUATEMALA, LAGO ATITLAN, SAN JOSE, ESCUINTLA C-25
91°47.2W	14°57.1N	1/ 2/74	17°08'27	94-299	GUATEMALA, MEXICO (CHIAPAS), TAPACHULA, QUETZALTENANGO, C-25
91°32.1W	14°38.8N	1/ 2/74	17°08'33	94-300	GUATEMALA, QUETZALTENANGO, LAGO ATITLAN, MEZATENANGO, C-30
91°17.2W	14°20.5N	1/ 2/74	17°08'39	94-301	GUATEMALA, LAGO ATITLAN, TIQUISATE, PATULUL, ESCUINTLA, C-20
91°02.4W	14°02.8N	1/ 2/74	17°08'46	94-302	GUATEMALA, ESCUINTLA, SAN JOSE, ISTAPA, C-15
91°49.9W	15°01.6N	1/ 2/74	17°08'26	48-108	MEXICO (CHIAPAS), GUATEMALA, LAGO ATITLAN, QUETZALTENANGO, C-30
91°48.9W	15°04.4N	4/12/73	17°00'50	90-342	GUATEMALA, QUETZALTENANGO, SAN SEBASTIAN, CATEPEQUE C-16
91°45.9W	18°26.3N	7/ 1/74	17°11'20	64-022	MEXICO (TABASCO-CAMPECHE), BAHIA TERMINOS, CIUDAD DEL CARMAN, C-55
91°20.9W	18°54.6N	7/ 1/74	17°11'30	64-023	MEXICO (CAMPECHE), BAHIA TERMINOS, CIUDAD DEL CARMAN, C-45
91°47.2W	18°23.6N	7/ 1/74	17°11'19	89-196	MEXICO (CAMPECHE-TABASCO), BAHIA TERMINOS, CIUDAD DEL CARMAN, C-30
91°31.1W	18°41.8N	7/ 1/74	17°11'25	89-197	MEXICO (CAMPECHE-TABASCO), BAHIA TERMINOS, CIUDAD DEL CARMAN
91°16.9W	19°50.1N	28/ 1/74	18°23'31	A4-051	MEXICO (CAMPECHE), CHAMPOTON, C-5C
91°04.4W	19°44.0N	5/12/73	16°16'39	91-014	MEXICO (CAMPECHE), CHAMPOTON, C-3C
91°42.3W	20°18.2N	28/ 1/74	18°23'21	A4-050	GULF OF MEXICO, C-35
91°20.5W	20°01.1N	5/12/73	16°16'32	91-013	MEXICO (CAMPECHE), C-25
91°50.9W	23°30.3N	6/ 1/74	17°55'40	58-346	GULF OF MEXICO, C-30
91°32.7W	23°47.8N	6/ 1/74	17°55'46	91-353	GULF OF MEXICO, C-20
91°20.0W	24°59.0N	1/12/73	17°31'49	90-110	GULF OF MEXICO, C-60
91°21.8W	24°58.1N	29/ 1/74	17°39'14	94-137	GULF OF MEXICO, C-80
91°40.3W	25°18.5N	1/12/73	17°31'42	* 52-134	GULF OF MEXICO C-40
91°54.1W	25°31.3N	1/12/73	17°31'37	90-108	GULF OF MEXICO C-25
91°37.0W	25°15.0N	1/12/73	17°31'43	90-109	GULF OF MEXICO, C-25
91°58.8W	25°34.6N	29/ 1/74	17°39'00	94-136	GULF OF MEXICO, C-30
91°41.6W	29°40.8N	30/ 1/74	16°54'59	A4-206	LA., LAFAYETTE, NEW IBERIA, ATCHAFALAYA R., SILT
91°11.6W	29°14.6N	30/ 1/74	16°55'09	A4-207	LA., VERMILLION BAY, MORGAN CITY, ATCHAFALAYA BAY, SILT
91°38.0W	29°39.3N	2/12/73	16°47'30	* 52-189	LA., ATCHAFALAYA R., MISSISSIPPI R., VERMILLION BAY, C-10
91°07.7W	29°12.6N	2/12/73	16°47'40	* 52-190	LA., ATCHAFALAYA R., ATCHAFALAYA BAY, MORGAN CITY
91°42.3W	29°42.1N	2/12/73	16°47'29	90-160	LOUISIANA, NEW IBERIA, MORGAN CITY, ATCHAFALAYA BAY
91°23.5W	29°25.4N	2/12/73	16°47'35	90-161	LOUISIANA, MORGAN CITY, ATCHAFALAYA BAY, OIL SLICKS
91°04.7W	29°09.1N	2/12/73	16°47'41	90-162	LOUISIANA, TERREBONNE BAY, ISLE DERNIERES, OIL SLICKS
91°19.2W	29°25.5N	7/12/73	16°47'57	91-091	LA., MORGAN CITY, ATCHAFALAYA BAY
91°30.1W	29°29.7N	30/ 1/74	16°55'03	94-182	LA., VERMILLION BAY, ATCHAFALAYA BAY, MORGAN CITY
91°35.0W	32°17.0N	14/ 1/74	15°25'00	70-016	MISS., LA., C-100
91°03.1W	32°42.0N	14/ 1/74	15°25'10	70-017	ALA., MISS., C-100
91°32.7W	33°32.2N	31/ 1/74	16°11'00	A4-353	ARK., MISS., LA., MISSISSIPPI R., ARKANSAS R., GREENVILLE
91°00.1W	33°07.6N	31/ 1/74	16°11'10	A4-354	ARK., MISS., LA., VICKSBURG, GREENVILLE, MISSISSIPPI R., YAZOO R.
91°55.8W	33°43.0N	3/12/73	16°03'23	* 52-239	MISS., LA., ARK., C-96
91°55.8W	33°44.3N	21/ 1/74	20°09'20	64-387	ARK., MISS., PINE BLUFF, GREENVILLE, MISSISSIPPI R., ARKANSAS R.
91°57.1W	33°42.5N	3/12/73	16°03'23	90-220	LA.-ARK. C-96
91°13.0W	33°05.7N	3/12/73	16°03'36	90-221	MISS.-LA.-ARK., YAZOO R. C-92
91°53.2W	33°41.5N	21/ 1/74	20°09'21	92-293	ARK., MISS., MISSISSIPPI R., DUMAS, MONTECELLO, WARREN
91°08.0W	33°07.4N	21/ 1/74	20°09'34	92-294	ARK., MISS., LA., GREENVILLE, MISSISSIPPI R., LAKE PROVIDENCE
91°23.2W	36°38.8N	22/ 1/74	19°25'40	70-266	ARK., MO., C-98
91°59.1W	37°01.3N	22/ 1/74	19°25'30	70-265	ARK., MO., C-100
91°30.3W	38°46.8N	12/ 1/74	16°52'50	64-290	ILL., MO., MISSISSIPPI R., ILLINOIS R., MISSOURI R., MERRAMEC R., S-100
91°42.6W	38°39.7N	12/ 1/74	16°52'46	92-114	MO., MISSOURI R., FULTON, GASCONADE R., C-10, S-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
91°17.9W	38°54.0N	12/ 1/74	16°52'53	92-115	MO., ILL., MISSISSIPPI R., MISSOURI R., ILLINOIS R., S-100
91°30.1W	39°31.6N	30/11/73	16°35'20	* 52-055	ILL., MO., QUINCY, MISSISSIPPI R., HANNIBAL, C-60
91°35.7W	39°34.0N	30/11/73	16°35'19	90-022	MO-ILL., HANNIBAL, QUINCY, MONROE CITY, MISSISSIPPI R. C-60
91°12.0W	39°20.6N	30/11/73	16°35'25	90-023	ILL., MISSISSIPPI R., MONROE CITY, MISSISSIPPI R. C-60
91°07.7W	41°46.0N	24/ 1/74	17°58'22	70-360	IA., ILL., MISSISSIPPI R., DAVENPORT, IOWA CITY, S-90
91°35.7W	41°58.4N	24/ 1/74	17°58'15	93-218	IOWA, IOWA CITY, CEDAR RAPIDS, CEDAR R., IOWA R., S-100
91°09.3W	41°46.0N	24/ 1/74	17°58'21	93-219	IOWA, ILL., MISSISSIPPI R., DAVENPORT, ROCK ISLAND, MUSCATINE, S-100
91°49.5W	42°05.7N	24/ 1/74	17°58'12	70-359	IA., IOWA R., IOWA CITY, CEDAR RAPIDS, S-100
91°59.8W	42°09.4N	24/ 1/74	17°58'09	93-217	IOWA, WATERLOO, CEDAR RAPIDS, CEDAR R., VINTON, S-100
91°19.9W	43°54.1N	20/ 1/74	19°13'59	92-249	MINN., WISC., C-100
91°41.0W	44°02.5N	25/ 1/74	17°14'40	▲ 76-005	MINN., WISC., IA., MISSISSIPPI R., LA CROSSE, BLACK R., S-90
91°47.9W	44°05.1N	20/ 1/74	19°13'53	92-248	MINN., C-100
90°10.0W	12°59.1N	1/ 2/74	17°09'08	48-115	EL SALVADOR, ACAJUTLA, PUNTA REMEDIOS, C-30
90°07.7W	12°43.7N	27/ 1/74	19°08'28	76-256	PACIFIC O. OFF CENTRAL AMERICA, C-60
90°04.1W	12°56.3N	4/12/73	17°01'34	90-349	PACIFIC OCEAN OFF CENTRAL AMERICA C-12
90°03.1W	12°49.6N	1/ 2/74	17°09'11	94-306	PACIFIC O. OFF CENTRAL AMERICA, C-15
90°52.5W	13°51.6N	1/ 2/74	17°08'50	48-112	GUATEMALA, EL SALVADOR, ANTIGUA GUATEMALA, LAGO AMATITLAN, C-20
90°38.0W	13°33.5N	1/ 2/74	17°08'56	48-113	GUATEMALA, EL SALVADOR, SAN JOSE, TAXISCO, ACAJUTLA, C-30
90°23.8W	13°16.6N	1/ 2/74	17°09'02	48-114	GUATEMALA, EL SALVADOR, ACAJUTLA, PUNTA REMEDIOS, C-25
90°59.4W	13°43.3N	8/ 1/74	16°27'10	64-084	GUATEMALA, ESCUINTLA, PATULUL, SAN JOSE
90°58.8W	13°35.2N	27/ 1/74	19°08'08	76-254	GUATEMALA, LA GOMERA, SAN JOSE, C-60
90°33.1W	13°11.7N	27/ 1/74	19°08'18	76-255	GUATEMALA, PACIFIC O., C-60
90°51.2W	13°52.4N	8/ 1/74	16°27'13	89-290	GUATEMALA, SAN JOSE, ESCUINTLA, VOLCAN AGUA, PATULUL, C-10
90°48.9W	13°51.6N	4/12/73	17°01'15	90-346	GUATEMALA, SAN JOSE, ESCUINTLA C-15
90°33.7W	13°33.3N	4/12/73	17°01'21	90-347	GUATEMALA, SAN JOSE, ISTAPA C-15
90°19.6W	13°17.6N	4/12/73	17°01'28	90-348	GUATEMALA, LAS LISAS C-18
90°46.9W	13°43.6N	1/ 2/74	17°08'52	94-303	GUATEMALA, SAN JOSE, ISTAPA, ESCUINTLA
90°32.1W	13°25.9N	1/ 2/74	17°08'58	94-304	GUATEMALA, EL PAPATURRO, C-10
90°17.3W	13°07.4N	1/ 2/74	17°09'05	94-305	PACIFIC O. OFF CENTRAL AMERICA, C-15
90°36.0W	14°12.3N	8/ 1/74	16°27'20	64-085	GUATEMALA, EL SALVADOR, GUATEMALA CITY, VOLCAN AGUA, LAGO ATITLAN
90°12.0W	14°41.3N	8/ 1/74	16°27'30	64-086	GUATEMALA, EL SALVADOR, GUATEMALA CITY, VOLCAN FUEGO, JALAPA, C-40
90°36.4W	14°10.3N	2/ 1/74	16°27'19	89-291	GUATEMALA, GUATEMALA CITY, LAKE AMATITLAN, VOLCAN ACATEMANGO, C-20
90°21.2W	14°25.0N	8/ 1/74	16°27'26	89-292	GUATEMALA, GUATEMALA CITY, ANTIGUA, RIO MOTAGUA, VOLCAN FUEGO, C-35
90°06.7W	14°46.6N	8/ 1/74	16°27'32	89-293	GUATEMALA, CHIQUIMULA, ZACAPA, RIO MOTAGUA, JALAPA, C-40
90°26.8W	18°53.5N	2/ 1/74	18°23'51	A4-053	MEXICO (CAMPECHE), CAMPECHE, NOH LAGUNA, C-60
90°01.8W	18°25.1N	28/ 1/74	18°24'01	A4-054	MEXICO (CAMPECHE), GUATEMALA, CHUMPINCH, DOS LAGUNAS, C-70
90°02.8W	18°34.3N	5/12/73	16°17'03	91-017	MEXICO (CAMPECHE), QUINTANA ROO, SILVITUC, C-70
90°51.9W	19°21.6N	28/ 1/74	18°23'41	A4-052	MEXICO (CAMPECHE), CAMPECHE, CHAMPOTON, C-65
90°49.6W	19°27.2N	5/12/73	16°16'44	91-015	MEXICO (CAMPECHE), CHAMPOTON, PLATONICH, C-40
90°34.1W	19°09.5N	5/12/73	16°16'51	91-016	MEXICO (CAMPECHE), CHAMPOTON, PICH, C-60
90°09.0W	23°44.6N	25/ 1/74	17°39'40	94-139	GULF OF MEXICO, C-15
90°45.6W	24°24.4N	1/12/73	17°32'02	* 52-135	GULF OF MEXICO C-60
90°56.8W	24°25.4N	6/ 1/74	17°56'00	58-347	GULF OF MEXICO, C-25
90°56.8W	24°24.0N	6/ 1/74	17°55'59	91-354	GULF OF MEXICO, C-15
90°45.3W	24°21.4N	25/ 1/74	17°39'27	94-138	GULF OF MEXICO, C-25
90°01.4W	25°20.6N	6/ 1/74	17°56'20	58-348	GULF OF MEXICO, C-25
90°20.2W	25°00.6N	6/ 1/74	17°56'13	91-355	GULF OF MEXICO, C-10
90°42.0W	28°48.4N	30/ 1/74	16°55'19	A4-208	LA., GRAND ISLE, HOUMA, OFFSHORE OIL RIGS, C-10
90°12.3W	28°22.0N	30/ 1/74	16°55'29	A4-209	LA., GRAND ISLE, OFFSHORE OIL RIGS, C-40
90°37.7W	28°46.2N	2/12/73	16°47'50	* 52-191	LA., TERREBONNE BAY, MORGAN CITY
90°08.4W	28°19.9N	2/12/73	16°48'00	* 52-192	LA., TIMBALIER I., GRAND ISLE
90°20.5W	28°35.0N	7/12/73	14°48'17	* 52-389	GULF OF MEXICO, C-60
90°46.6W	28°53.0N	2/12/73	16°47'47	90-163	LOUISIANA, ISLE DERNIERES, TIMBALIER I.
90°27.8W	28°36.2N	2/12/73	16°47'54	90-164	LOUISIANA, TERREBONNE BAY
90°10.0W	28°12.0N	2/12/73	16°48'00	90-165	GULF OF MEXICO
90°41.3W	28°52.5N	7/12/73	14°48'10	91-092	LA., TERREBONNE BAY, ISLES DERNIERES, C-10
90°02.1W	28°17.4N	7/12/73	14°48'23	91-093	GULF OF MEXICO, C-90
90°48.9W	28°53.6N	30/ 1/74	16°55'17	94-183	LA., ISLES DERNIERES, TIMBALIER I.
90°09.7W	28°18.4N	30/ 1/74	16°55'30	94-184	GULF OF MEXICO, C-30
90°27.5W	32°42.5N	31/ 1/74	16°11'20	A4-355	LA., MISS., VICKSBURG, MISSISSIPPI R., JACKSON, C-20
90°50.2W	32°53.4N	3/12/73	16°03'43	* 52-240	MISS., JACKSON, PEARL R., BIG BLACK R., YAZOO R., C-60
90°49.6W	32°54.2N	21/ 1/74	20°09'40	64-388	ARK., MISS., MISSISSIPPI R., VICKSBURG, GREENVILLE, GREENWOOD
90°29.8W	32°36.6N	3/12/73	16°03'49	90-222	MISSISSIPPI, JACKSON, ROSS BARNETT RES., YAZOO CITY C-40
90°24.2W	32°13.6N	21/ 1/74	20°09'48	92-295	MISS., JACKSON, ROSS BARNETTRES, YAZOO CITY
90°30.4W	33°06.5N	14/ 1/74	15°25'20	70-018	ALA., MISS., C-100
90°12.3W	35°51.1N	22/ 1/74	19°26'00	70-268	TENN., ARK., MO., MISSISSIPPI R., C-80
90°47.6W	36°14.6N	22/ 1/74	19°25'50	70-267	ARK., MO., ST. FRANCIS R., C-50
90°12.6W	38°48.1N	30/11/73	16°35'40	* 52-057	ILL., MO., ST. LOUIS, MISSISSIPPI R., MISSOURI R., ILLINOIS R., C-40
90°24.5W	38°54.2N	30/11/73	16°35'37	90-025	ILL., MISSISSIPPI R., ST. LOUIS, MISSOURI R., ILLINOIS R. C-50
90°01.1W	38°40.5N	30/11/73	16°35'43	90-026	MO-ILL., ST. LOUIS, MISSISSIPPI R., MISSOURI R. C-45
90°51.2W	39°10.3N	30/11/73	16°35'30	* 52-056	MO., ILL., ST. LOUIS, MISSISSIPPI R., MISSOURI R., ILLINOIS R., C-50
90°51.4W	39°09.2N	12/ 1/74	16°53'00	64-291	ILL., MO., ST. LOUIS, MISSISSIPPI R., MISSOURI R., ILLINOIS R., S-100
90°12.6W	39°31.6N	12/ 1/74	16°53'10	64-292	ILL., MO., ST. LOUIS, MISSISSIPPI R., ILLINOIS R., SPRINGFIELD, S-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	SIGD A+B ROLL-FRAME	LOCATION AND COMMENTS
90°48.6W	39°07.7N	30/11/73	16°35'31	90-024	ILL., MISSISSIPPI R., ST. LOUIS, MISSOURI R., ILLINOIS R. C-60
90°53.5W	39°07.7N	12/ 1/74	16°52'59	92-116	MO., ILL., MISS., MO., + ILL. RIVERS, PORTAGE DES SOUX, S-100
90°27.1W	39°22.3N	12/ 1/74	16°53'05	92-117	MO., ILL., MISS., + ILL. RIVERS, JACKSONVILLE, S-100
90°06.0W	39°34.2N	12/ 1/74	16°53'11	92-118	ILL., SPRINGFIELD, JACKSONVILLE, SANGAMON R., S-100
90°26.2W	41°26.1N	24/ 1/74	17°58'32	70-361	IA., ILL., MISSISSIPPI R., DAVENPORT, MUSCATINE, S-70
90°43.0W	41°33.5N	24/ 1/74	17°58'27	93-220	IOWA, ILL., MISSISSIPPI R., DAVENPORT, ROCK ISLAND, MOLINE, S-80
90°16.6W	41°20.7N	24/ 1/74	17°58'34	93-221	ILL., IOWA, MISSISSIPPI R., DAVENPORT, GALESBURG, KEWANEE, S-80
90°55.8W	43°44.5N	25/ 1/74	17°14'50	▲ 76-006	MINN., WISC., IA., MISSISSIPPI R., LA CROSSE, WISCONSIN R., S-80
90°11.6W	43°26.5N	25/ 1/74	17°15'00	▲ 76-007	IA., WISC., ILL., MISSISSIPPI R., MADISON, WISCONSIN R., PORTAGE
89°13.6W	11°48.5N	1/ 2/74	17°09'32	48-119	PACIFIC O. OFF CENTRAL AMERICA, C-1C
89°16.9W	11°48.3N	27/ 1/74	19°08'48	76-258	PACIFIC O. OFF CENTRAL AMERICA, C-30
89°06.4W	11°53.5N	4/12/73	17°01'59	90-353	PACIFIC OCEAN OFF CENTRAL AMERICA
89°19.2W	11°54.5N	1/ 2/74	17°09'29	94-309	PACIFIC O. OFF CENTRAL AMERICA
89°04.4W	11°36.4N	1/ 2/74	17°09'36	94-310	PACIFIC O. OFF CENTRAL AMERICA
89°55.5W	12°41.3N	1/ 2/74	17°09'14	48-116	EL SALVADOR, PUNTA REMEDIOS, C-2C
89°41.7W	12°23.5N	1/ 2/74	17°09'20	48-117	PACIFIC O. OFF CENTRAL AMERICA, C-1C
89°27.5W	12°06.4N	1/ 2/74	17°09'26	48-118	PACIFIC O. OFF CENTRAL AMERICA, C-1C
89°43.0W	12°15.6N	27/ 1/74	19°08'38	76-257	PACIFIC O. OFF CENTRAL AMERICA, C-4C
89°49.6W	12°38.7N	4/12/73	17°01'40	90-350	PACIFIC OCEAN OFF CENTRAL AMERICA
89°35.1W	12°21.1N	4/12/73	17°01'46	90-351	PACIFIC OCEAN OFF CENTRAL AMERICA
89°19.9W	12°07.5N	4/12/73	17°01'53	90-352	PACIFIC OCEAN OFF CENTRAL AMERICA
89°48.2W	12°31.1N	1/ 2/74	17°09'17	94-307	PACIFIC O. OFF CENTRAL AMERICA
89°33.7W	12°13.0N	1/ 2/74	17°09'23	94-308	PACIFIC O. OFF CENTRAL AMERICA
89°48.2W	15°10.2N	8/ 1/74	16°27'40	64-087	GUATEMALA, EL SALVADOR, HONDURAS, LAGO IZABAL, RIO MATAGUA, COPAN
89°23.9W	15°35.3N	8/ 1/74	16°27'50	64-088	GUATEMALA, HONDURAS, BELIZE, LAGO IZABAL, PUERTO BARRIOS, C-50
89°33.1W	15°27.0N	8/ 1/74	16°27'46	89-294	GUATEMALA, LAGO IZABAL, RIO MOTUGLA, ZACAPA, C-50
89°18.6W	15°44.6N	8/ 1/74	16°27'52	89-295	GUATEMALA, BELIZE, LAGO IZABAL, LIVINGSTON, EL ESTER, C-60
89°04.7W	16°56.5N	29/11/73	19°01'31	* 52-019	HONDURAS, NICARAGUA, JUTICALPA, OCOTAL, PATUGA R., C-60
89°04.1W	16°01.5N	8/ 1/74	16°27'58	89-296	GUATEMALA, BELIZE, LIVINGSTON, PUNTA GORDA, CABO TRES PUNTAS, C-70
89°37.0W	17°56.6N	28/ 1/74	18°24'11	A4-055	MEXICO (CAMPECHE), QUINTANA ROO, GUATEMALA, BELIZE, TIKAL, C-70
89°12.0W	17°27.6N	28/ 1/74	18°24'21	A4-056	MEXICO (CAMPECHE), QUINTANA ROO, GUATEMALA, BELIZE, BELIZE CITY, C-65
89°32.1W	17°59.4N	5/12/73	16°17'15	91-019	MEXICO GUATEMALA, XICULCULCH, C-8C
89°16.6W	17°41.6N	5/12/73	16°17'22	91-020	GUATEMALA, BELIZE, MEXICO (Q.R.-CAMP.), C-80
89°01.1W	17°23.3N	5/12/73	16°17'28	91-021	BELIZE, GUATEMALA, MEXICO, (QUINTANA ROO), GALLON JUG, HILL BANK, C-70
89°48.2W	18°17.7N	5/12/73	16°17'09	91-018	MEXICO (CAMPECHE), SILVITUC, C-75
89°51.9W	23°29.5N	1/12/73	17°32'22	* 52-136	GULF OF MEXICO C-80
89°33.4W	23°07.7N	29/ 1/74	17°39'54	94-140	GULF OF MEXICO, ARECIFE ALACARAN
89°42.6W	25°37.7N	6/ 1/74	17°56'26	91-356	GULF OF MEXICO, C-20
89°05.4W	26°14.8N	6/ 1/74	17°56'40	58-349	GULF OF MEXICO, C-40
89°05.7W	26°13.5N	6/ 1/74	17°56'39	91-357	GULF OF MEXICO, C-45
89°43.3W	27°55.5N	30/ 1/74	16°55'39	A4-210	GULF OF MEXICO, C-70
89°14.3W	27°28.5N	30/ 1/74	16°55'49	A4-211	GULF OF MEXICO, C-85
89°39.7W	27°53.5N	2/12/73	16°48'10	* 52-193	GULF OF MEXICO, C-15
89°10.3W	27°26.5N	2/12/73	16°48'20	* 52-194	GULF OF MEXICO, C-40
89°34.1W	27°47.2N	2/12/73	16°48'12	90-167	GULF OF MEXICO C-15
89°16.3W	27°30.7N	2/12/73	16°48'18	90-168	GULF OF MEXICO C-45
89°23.2W	27°42.0N	7/12/73	14°48'37	91-094	GULF OF MEXICO, C-100
89°29.8W	27°42.1N	30/ 1/74	16°55'43	94-185	GULF OF MEXICO, C-80
89°51.2W	28°03.2N	2/12/73	16°48'06	90-166	GULF OF MEXICO
89°23.2W	31°51.6N	31/ 1/74	16°11'40	A4-357	MISS., ALA., MERIDIAN, HATTIESBURG, LAUREL, C-12
89°14.3W	31°37.5N	3/12/73	16°04'13	* 52-242	MISS., ALA., HATTIESBURG, LAUREL, LEAF R., TOMBIGEE R.
89°13.3W	31°38.6N	21/ 1/74	20°10'10	64-390	ALA., MISS., HATTIESBURG, LAUREL, LEAF R.
89°04.1W	31°26.5N	3/12/73	16°04'16	90-224	MISS.-ALA., HATTIESBURG, LAUREL
89°01.1W	31°27.7N	21/ 1/74	20°10'14	92-297	MISS., ALA., HATTIESBURG, LAUREL LEAF R.
89°54.8W	32°17.0N	31/ 1/74	16°11'30	A4-356	MISS., JACKSON, VICKSBURG, MERIDIAN, NATCHES TRACE, C-70
89°45.9W	32°03.2N	3/12/73	16°04'03	* 52-241	MISS., JACKSON, ROSS BARNETT RES., PEARL R., LAUREL
89°45.0W	32°04.0N	21/ 1/74	20°10'00	64-389	MISS., JACKSON, ROSS BARNETT RES., PEARL R.
89°46.6W	32°02.7N	3/12/73	16°04'03	90-223	MISSISSIPPI, JACKSON, MAGEE, FOREST, ROSS BARNETT RES.
89°41.7W	32°00.4N	21/ 1/74	20°10'01	92-296	MISS., MORTON, MAGEE, BAY SPRINGS
89°57.8W	33°31.7N	14/ 1/74	15°25'30	70-019	ALA., MISS., C-100
89°24.5W	33°56.2N	14/ 1/74	15°25'40	70-020	ALA., MISS., C-100
89°37.4W	35°27.3N	22/ 1/74	19°26'10	70-269	TENN., MISS., ARK., MO., JACKSON, MISSISSIPPI R., C-60
89°02.8W	35°03.2N	22/ 1/74	19°26'20	70-270	ALA., TENN., MISS., TENNESSEE R., SHILOH CHURCH, JACKSON, C-30
89°37.4W	35°26.3N	22/ 1/74	19°26'10	93-145	TENN., MISS., ARK., MISS. R., MEMPHIS, HATCHIE R., C-
89°16.3W	35°11.6N	22/ 1/74	19°26'16	93-146	TENN., MISS., BOLIVER R., HATCHIE R., C-20
89°34.7W	38°26.1N	30/11/73	16°35'50	* 52-058	MO., ILL., ST. LOUIS, MISSISSIPPI R., KASKASKIA R., C-50
89°36.7W	38°26.3N	30/11/73	16°35'50	90-027	MO-ILL., ST. LOUIS, EDWARDSVILLE, CARLYLE RES. C-35
89°13.3W	38°12.5N	30/11/73	16°35'56	90-028	ILLINOIS, CARLYLE RES., CENTRALIA, MT. VERNON C-30
89°37.0W	39°51.2N	12/ 1/74	16°53'20	64-293	ILL., SPRINGFIELD, DECATUR, ILLINOIS R., S-100
89°43.6W	39°46.6N	12/ 1/74	16°53'18	92-119	ILL., SPRINGFIELD, DECATUR, LINCOLN, S-100
89°20.2W	39°59.4N	12/ 1/74	16°53'24	92-120	ILL., DECATUR, SANGAMON R., CLINTON, S-100
89°04.1W	40°45.4N	24/ 1/74	17°58'52	70-363	ILL., PEORIA, ILLINOIS R., BLOOMINGTON, STRATOR, S-30, C-40
89°25.2W	40°55.3N	24/ 1/74	17°58'46	93-223	ILL., ILLINOIS R., PEORIA, BLOOMINGTON, S-7C

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B KOLL-FRAME	LOCATION AND COMMENTS
89°00.1W	40°42.4N	24/ 1/74	17°58'53	93-224	ILL., ILLINOIS R., BLOOMINGTON, PCNTIAC, C-20, S-50
89°45.3W	41°06.2N	24/ 1/74	17°58'42	70-362	ILL., PEORIA, ILLINOIS R., PRINCETON, LINCOLN, S-50, C-15
89°50.9W	41°08.1N	24/ 1/74	17°58'40	93-222	ILL., ILLINOIS R., PEORIA, PIKEN, ROCK R., S-80
89°26.8W	43°08.1N	25/ 1/74	17°15'10	▲ 76-008	WISC., ILL., MADISON, WISCONSIN R., RICKFORD, FREEPORT, S-80
88°09.7W	4°19.5N	26/ 1/74	19°53'49	▲ 76-122	PACIFIC O. OFF CENTRAL AMERICA, C-20
88°31.1W	10°56.0N	1/ 2/74	17°09'50	48-122	PACIFIC O. OFF CENTRAL AMERICA, C-1C
88°17.6W	10°38.6N	1/ 2/74	17°09'56	48-123	PACIFIC O. OFF CENTRAL AMERICA, C-10
89°03.8W	10°20.4N	1/ 2/74	17°10'02	48-124	PACIFIC O. OFF CENTRAL AMERICA, C-1C
88°26.8W	10°52.6N	27/ 1/74	19°09'08	76-260	PACIFIC O. OFF CENTRAL AMERICA, C-20
88°03.8W	10°23.2N	27/ 1/74	19°09'18	76-261	PACIFIC O. OFF CENTRAL AMERICA, C-1C
88°21.3W	10°50.2N	4/12/73	17°02'18	90-356	PACIFIC OCEAN OFF CENTRAL AMERICA
88°07.1W	10°30.1N	4/12/73	17°02'24	90-357	PACIFIC OCEAN OFF CENTRAL AMERICA C-10
88°20.6W	10°40.5N	1/ 2/74	17°09'55	94-313	PACIFIC O. OFF CENTRAL AMERICA
88°06.1W	10°22.4N	1/ 2/74	17°10'01	94-314	PACIFIC O. OFF CENTRAL AMERICA
88°59.1W	11°31.0N	1/ 2/74	17°09'38	48-120	PACIFIC O. OFF CENTRAL AMERICA, C-1C
88°43.7W	11°19.6N	1/ 2/74	17°09'44	48-121	PACIFIC O. OFF CENTRAL AMERICA, C-1C
88°02.9W	11°28.8N	9/ 1/74	15°43'52	64-141	PACIFIC O. OFF CENTRAL AMERICA
88°51.2W	11°21.1N	27/ 1/74	19°08'58	76-259	PACIFIC O. OFF CENTRAL AMERICA, C-3C
88°57.2W	11°33.8N	4/12/73	17°02'05	90-354	PACIFIC OCEAN OFF CENTRAL AMERICA
88°37.9W	11°13.7N	4/12/73	17°02'11	90-355	PACIFIC OCEAN OFF CENTRAL AMERICA
88°48.3W	11°23.5N	1/ 2/74	17°09'42	94-311	PACIFIC O. OFF CENTRAL AMERICA
88°34.4W	11°03.0N	1/ 2/74	17°09'48	94-312	PACIFIC O. OFF CENTRAL AMERICA
88°47.6W	16°58.5N	28/ 1/74	18°24'31	A4-057	GUATEMALA, BELIZE, TIKAL, LAGO PATEN ITZA, STANN CREEK, C-60
88°23.2W	16°30.2N	28/ 1/74	18°24'41	A4-058	GUATEMALA, BELIZE, STANN CREEK, BOON TOWN, PUERTO BARRIOS, C-25
88°06.6W	16°49.2N	5/12/73	16°17'40	* 52-344	GUATEMALA, BELIZE, BELIZE CITY, TURNEREE IS., C-25
88°06.4W	16°20.2N	5/12/73	16°17'50	* 52-345	BELIZE, GUATEMALA, HONDURAS, BELIZE CITY, PUERTO CORTEZ, TELA, C-15
88°59.8W	16°08.2N	8/ 1/74	16°28'00	64-089	GUATEMALA, BELIZE, LAGO IZABAL, PUERTO BARRIOS, RIO MUTAGUA, C-60
88°35.4W	16°37.0N	8/ 1/74	16°28'10	54-090	GUATEMALA, BELIZE, STANN CREEK, MONKEY R., CARO TRES PUNTAS, C-60
88°48.6W	16°20.4N	8/ 1/74	16°28'04	89-297	GUATEMALA, BELIZE, GULF OF HONDURAS, STANN CREEK, C-75
88°33.1W	16°36.7N	8/ 1/74	16°28'10	89-298	GUATEMALA, BELIZE, STANN CREEK, MONKEY R., GLOVER REEFS, C-70
88°17.9W	16°56.4N	8/ 1/74	16°28'17	89-299	BELIZE, TURNEREE IS., BELIZE CITY, STANN CREEK, C-70
88°30.5W	16°47.4N	5/12/73	16°17'40	91-023	GUATEMALA, BELIZE, STANN CREEK, ORANGE WALK, MIDDLESEX, C-60
88°28.2W	16°44.5N	5/12/73	16°17'41	91-024	BELIZE, STANN CREEK, MANGO CREEK, RANCHO GRANDE, C-35
88°12.7W	16°26.6N	5/12/73	16°17'48	91-025	BELIZE, GUATEMALA, MANGO CREEK, MONKEY R., RIO MUTAGUA, C-15
88°11.0W	17°05.7N	8/ 1/74	16°28'20	64-091	BELIZE, BELIZE CITY, TURNEREE IS., NORTH KEY, STANN CREEK, C-50
88°02.6W	17°14.7N	8/ 1/74	16°28'23	89-300	BELIZE, BELIZE CITY, AMBERGRIS CAY, TURNEREE IS., C-65
88°45.6W	17°05.2N	5/12/73	16°17'34	91-022	GUATEMALA, BELIZE, ORANGE WALK, GALLON JLG, BELIZE R., C-60
88°05.4W	21°37.6N	1/12/73	17°33'02	* 52-138	MEXICO (YUCATAN-QUINTANA ROO), CARO CATOCHE, HOLBOX, C-80
88°57.8W	22°33.3N	1/12/73	17°32'42	* 52-137	GULF OF MEXICO C-65
88°57.5W	22°30.3N	25/ 1/74	17°40'07	94-141	GULF OF MEXICO
88°16.6W	26°34.7N	30/ 1/74	16°56'09	A4-213	GULF OF MEXICO, C-40
88°42.0W	26°59.6N	2/12/73	16°48'30	* 52-195	GULF OF MEXICO, C-60
88°14.0W	26°32.7N	2/12/73	16°48'40	* 52-196	GULF OF MEXICO, C-50
88°19.9W	26°37.4N	2/12/73	16°48'38	90-170	GULF OF MEXICO C-25
88°28.2W	26°45.2N	6/ 1/74	17°56'53	91-358	GULF OF MEXICO, C-45
88°13.3W	26°30.4N	30/ 1/74	16°56'10	94-187	GULF OF MEXICO, C-30
88°45.3W	27°01.7N	30/ 1/74	16°55'59	A4-212	GULF OF MEXICO, C-75
88°08.7W	27°08.7N	6/ 1/74	17°57'00	58-350	GULF OF MEXICO, C-50
88°56.5W	27°12.1N	2/12/73	16°48'25	90-169	GULF OF MEXICO C-80
88°51.9W	27°06.5N	30/ 1/74	16°55'57	94-186	GULF OF MEXICO, C-70
88°11.0W	30°45.5N	3/12/73	16°04'33	* 52-244	ALA., MISS., FLA., MOBILE, ALABAMA R., MOBILE BAY, DAUPHIN I., C-60
88°10.7W	30°47.3N	21/ 1/74	20°10'30	54-392	ALA., MISS., MOBILE BAY, BILOXI, PASCAGULA, DAUPHIN I.
88°21.6W	30°53.8N	3/12/73	16°04'30	90-225	MISS.-ALA., MOBILE, MOBILE BAY, ALABAMA R. C-30
88°42.9W	30°56.4N	21/ 1/74	20°10'26	92-299	ALA., MISS., MOBILE, MOBILE BAY, ALABAMA R.
88°03.4W	30°40.1N	21/ 1/74	20°10'32	92-300	ALA., FLA., MISS., MOBILE, MOBILE BAY, ALABAMA R.
88°51.6W	31°26.1N	31/ 1/74	16°11'50	A4-358	ALA., MISS., HATTIESBURG, LAUREL, TOMBIGBEE R., C-15
88°20.6W	31°00.4N	31/ 1/74	16°12'00	A4-359	ALA., MISS., WIGGINS, TOMBIGBEE R., JACKSON, ALABAMA R., C-35
88°43.0W	31°12.4N	3/12/73	16°04'23	* 52-243	MISS., ALA., MOBILE, LAUREL, HATTIESBURG, ALABAMA R., C-15
88°42.0W	31°13.1N	21/ 1/74	20°10'20	54-391	ALA., MISS., MOBILE, HATTIESBURG, TOMBIGBEE R.
88°42.3W	31°12.4N	21/ 1/74	20°10'20	92-298	MISS., ALA., CITRONVILLE, LUCEDALE, TOMBIGBEE R.
88°51.2W	34°20.8N	14/ 1/74	15°25'50	70-021	TENN., ALA., MISS., C-100
88°17.3W	34°45.0N	14/ 1/74	15°26'00	70-022	TENN., ALA., MISS., C-100
88°28.8W	34°39.2N	22/ 1/74	19°26'30	70-271	MISS., TENN., ALA., TENNESSEE R., CORINTH, FLORENCE
88°54.5W	34°56.5N	22/ 1/74	19°26'22	93-147	TENN., MISS., ALA., PICKWICK LAKE, CORINTH, HATCHIE R.
88°33.4W	34°41.5N	22/ 1/74	19°26'28	93-148	ALA., TENN., MISS., PICKWICK LAKE, CORINTH, TUPELO
88°11.4W	34°25.7N	22/ 1/74	19°26'35	93-149	ALA., MISS., TENNESSEE R., PICKWICK LAKE, TUPELO
88°21.2W	37°43.5N	30/11/73	16°36'10	* 52-060	MO., ILL., IND., KY., OHIO R., WABASH R., TENNESSEE R., PADUCAH, C-20
88°50.9W	37°59.4N	30/11/73	16°36'02	90-029	ILLINOIS, W. FRANKFURT, BIG MUDDY R.F.S., CRABAPPLE RES. C-20
88°27.8W	37°46.3N	30/11/73	16°36'08	90-030	KY.-ILL.-IND., OHIO R., W. FRANKFURT, MARION, HENDERSON C-15
88°05.7W	37°33.2N	30/11/73	16°36'15	90-031	KY.-ILL.-IND., OHIO R., KENTUCKY LAKE, BARKLEY LAKE, PADUCAH C-15
88°57.5W	38°04.2N	30/11/73	16°36'00	* 52-059	MO., ILL., IND., MISSISSIPPI R., OHIO R., WABASH R., C-30
88°57.5W	40°12.3N	12/ 1/74	16°53'30	64-294	ILL., PEORIA, DECATUR, CHAMPAIGN, BLOOMINGTON, S-100
88°12.0W	40°36.0N	12/ 1/74	16°53'40	64-295	ILL., IND., WABASH R., ILLINOIS R., KANKAKEE, BLOOMINGTON, S-100
88°23.9W	40°25.0N	24/ 1/74	17°59'02	70-364	ILL., IND., CHAMPAIGN, URBANA, DANVILLE, BLOOMINGTON, S-15, C-40
88°55.2W	40°12.6N	12/ 1/74	16°53'30	92-121	ILL., DECATUR, CHAMPAIGN-URBANA, C-100
88°23.5W	40°25.1N	12/ 1/74	16°53'37	92-122	ILL., CHAMPAIGN-URBANA, BLOOMINGTON, S-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
88°44.6W	40°28.5N	24/ 1/74	17°58'59	93-225	ILL., BLOMINGTON, CHAMPAIGN, URBANA, C-30, S-20
88°09.0W	40°15.0N	24/ 1/74	17°59'05	93-226	ILL., IND., CHAMPAIGN, URBANA, DANVILLE, C-20, S-10
88°43.7W	42°45.7N	25/ 1/74	17°15'20	▲ 76-009	WISC., ILL., MADISON, ROCKFORD, MILWAUKEE, NW CHICAGO SUBURBS, S-80
88°00.8W	42°30.5N	25/ 1/74	17°15'30	▲ 76-010	WISC., ILL., IND., CHICAGO, MILWAUKEE, GARY, RACINE, FOX R., S-60
87°36.1W	9°45.3N	1/ 2/74	17°10'14	48-126	PACIFIC O. OFF CENTRAL AMERICA, C-10
87°20.9W	9°25.7N	1/ 2/74	17°10'20	48-127	PACIFIC O. OFF CENTRAL AMERICA, C-15
87°40.7W	9°53.7N	27/ 1/74	19°09'28	76-262	PACIFIC O. OFF CENTRAL AMERICA, C-10
87°39.7W	9°51.8N	4/12/73	17°02'37	90-359	PACIFIC OCEAN OFF CENTRAL AMERICA C-20
87°23.9W	9°35.0N	4/12/73	17°02'43	90-360	PACIFIC OCEAN OFF CENTRAL AMERICA C-25
87°09.1W	9°16.2N	4/12/73	17°02'49	90-361	PACIFIC OCEAN OFF CENTRAL AMERICA C-25
87°37.4W	9°45.6N	1/ 2/74	17°10'13	94-316	PACIFIC O. OFF CENTRAL AMERICA
87°22.2W	9°26.2N	1/ 2/74	17°10'19	94-317	PACIFIC O. OFF CENTRAL AMERICA C-15
87°06.8W	9°08.1N	1/ 2/74	17°10'26	94-318	PACIFIC O. OFF CENTRAL AMERICA C-25
87°49.9W	10°02.8N	1/ 2/74	17°10'08	48-125	PACIFIC O. OFF CENTRAL AMERICA, C-10
87°52.9W	10°11.0N	4/12/73	17°02'30	90-358	PACIFIC OCEAN OFF CENTRAL AMERICA C-15
87°51.9W	10°04.1N	1/ 2/74	17°10'07	94-315	PACIFIC O. OFF CENTRAL AMERICA
87°39.7W	11°58.0N	5/ 1/74	15°44'02	64-142	NICARAGUA, PUNTA COSIGUINA, CORINTO, PUERTO SAMOZA
87°16.3W	12°27.3N	5/ 1/74	15°44'12	64-143	NICARAGUA, HONDURAS, GULF OF FONSECA, LEON, LAGO MANAGUA, EL VIEJO
87°34.8W	15°32.7N	28/ 1/74	18°25'01	A4-060	HONDURAS, GUATEMALA, SAN PEDRO SULA, PUERTO CORTEZ, LA CEIBA, TELA
87°10.7W	15°03.5N	28/ 1/74	18°25'11	A4-061	HONDURAS, GUATEMALA, SAN PEDRO SULA, PUERTO CORTEZ, LA CEIBA, TELA
87°42.0W	15°51.2N	5/12/73	16°18'00	* 52-346	GUATEMALA, HONDURAS, SAN PEDRO SULA, LA CEIBA, PUERTO CORTEZ, LA LIMA
87°17.6W	15°22.2N	5/12/73	16°18'10	* 52-347	HONDURAS, SAN PEDRO SULA, LA LIMA, LA CEIBA, OLANCHITA, C-15
87°42.3W	15°50.5N	5/12/73	16°18'00	91-027	HONDURAS, SAN PEDRO SULA, LA LIMA, TELA, EL PROGRESO
87°28.8W	15°34.4N	5/12/73	16°18'06	91-028	HONDURAS, LA LIMA, EL PROGRESO, TELA, RIO AGUAN
87°14.0W	15°16.7N	5/12/73	16°18'12	91-029	HONDURAS, GORDILLERA NOMBRE DE DIOS, YORO, RIO SULACO, C-15
87°58.8W	16°01.6N	28/ 1/74	18°24'51	A4-059	HONDURAS, GUATEMALA, BELIZE, SAN PEDRO SULA, PUERTO CORTEZ, TELA, C-30
87°57.8W	16°09.0N	5/12/73	16°17'54	91-026	HONDURAS, GUATEMALA, SAN PEDRO SULA, PUERTO CORTEZ, TELA, C-15
87°46.3W	17°34.5N	8/ 1/74	16°28'30	64-092	BELIZE, MEXICO (QUINTANA ROO), BELIZE CITY, AMBERGRIS KEY, C-35
87°47.0W	17°32.4N	8/ 1/74	16°28'29	89-301	BELIZE, MEXICO (QUINTANA ROO), BELIZE CITY, AMBERGRIS KEY, C-70
87°31.1W	17°50.7N	8/ 1/74	16°28'36	89-302	MEXICO (QUINTANA ROO) BELIZE, BANCO CHINCHORRO, C-60
87°21.6W	18°03.0N	8/ 1/74	16°28'40	64-093	BELIZE, MEXICO (QUINTANA ROO), TURNEREE IS., BANCO CHINCHORRO, C-35
87°15.7W	18°08.5N	8/ 1/74	16°28'42	89-303	MEXICO (QUINTANA ROO) BANCO CHINCHORRO, C-50
87°14.0W	20°41.6N	1/12/73	17°33'22	* 52-139	MEXICO (YUCATAN-QUINTANA ROO), CABO CATOCHE, C-90
87°20.6W	25°40.7N	30/ 1/74	16°56'29	A4-215	GULF OF MEXICO, C-25
87°18.0W	25°39.0N	2/12/73	16°49'00	* 52-197	GULF OF MEXICO, C-40
87°33.8W	25°59.8N	7/12/73	14°49'15	* 52-390	GULF OF MEXICO, C-80
87°06.4W	25°26.7N	2/12/73	16°49'04	90-172	GULF OF MEXICO C-15
87°35.4W	25°54.2N	30/ 1/74	16°56'24	94-188	GULF OF MEXICO, C-15
87°48.6W	26°07.7N	30/ 1/74	16°56'19	A4-214	GULF OF MEXICO, C-20
87°43.7W	26°02.6N	2/12/73	16°48'51	90-171	GULF OF MEXICO C-15
87°48.3W	27°26.5N	6/ 1/74	17°57'06	91-359	GULF OF MEXICO, C-45
87°11.0W	28°01.5N	6/ 1/74	17°57'20	58-351	GULF OF MEXICO, C-50
87°09.1W	28°02.4N	6/ 1/74	17°57'20	91-360	GULF OF MEXICO, C-60
87°09.7W	29°54.3N	3/12/73	16°04'53	* 52-246	ALA., FLA., PENSACOLA, FT. WALTON BEACH, C-50
87°09.1W	29°55.1N	21/ 1/74	20°10'50	54-394	FLA., PENSACOLA, FT. WALTON BEACH, GULF OF MEXICO
87°00.2W	29°44.7N	3/12/73	16°04'57	90-227	GULF OF MEXICO C-50
87°04.8W	29°50.5N	21/ 1/74	20°10'52	92-303	FLA., PENSACOLA BEACH, SANTA ROSA I., GULF OF MEXICO
87°49.6W	30°34.7N	31/ 1/74	16°12'10	A4-360	ALA., MISS., TOMBIGBEE R., JACKSON, ALABAMA R., C-60
87°18.9W	30°06.8N	31/ 1/74	16°12'20	A4-361	ALA., GULF OF MEXICO, C-50
87°40.4W	30°20.2N	3/12/73	16°04'43	* 52-245	ALA., FLA., MOBILE, MOBILE BAY, DALPHIN I., PENSACOLA, C-50
87°40.0W	30°21.5N	21/ 1/74	20°10'40	64-393	FLA., ALA., MISS., MOBILE BAY, PENSACOLA, PASCAGOULA
87°40.0W	30°16.6N	3/12/73	16°04'43	90-226	ALA.-FLA., MOBILE BAY, DAPHNE, PERDIDO BAY C-60
87°44.3W	30°24.1N	21/ 1/74	20°10'39	92-301	ALA., FLA., MOBILE BAY, PENSACOLA, FAIRHOPE
87°24.6W	30°07.5N	21/ 1/74	20°10'45	92-302	FLA., ALA., PENSACOLA, PENSACOLA BAY, GULF OF MEXICO
87°21.6W	33°50.3N	22/ 1/74	19°26'50	70-273	ALA., BIRMINGHAM, TUSCALOOSA, BANKHEAD RES., JASPER
87°29.2W	33°55.2N	22/ 1/74	19°26'47	93-151	ALA., LEWIS SMITH RES., BANKHEAD RES., JASPER, HALLSVILLE
87°08.4W	33°39.7N	22/ 1/74	19°26'54	93-152	ALA., SMITH RES., JASPER, BANKHEAD LAKE
87°54.9W	34°14.6N	22/ 1/74	19°26'40	70-272	ALA., TENN., MISS., MUSCLE SHOALS, TENNESSEE R., AMORY
87°50.6W	34°10.5N	22/ 1/74	19°26'41	93-150	ALA., MISS., TENNESSEE R., RUSSELLVILLE, LEWIS SMITH RES.
87°43.3W	35°05.0N	14/ 1/74	15°26'10	70-023	TENN., ALA., C-100
87°08.7W	35°32.6N	14/ 1/74	15°26'20	70-024	TENN., GA., ALA., C-100
87°08.1W	36°57.5N	30/11/73	16°36'30	* 52-062	IND., KY., TENN., OHIO R., OWENSBORO, LAKE BARKLEY
87°44.3W	37°21.0N	30/11/73	16°36'20	* 52-061	ILL., IND., KY., TENN., EVANSVILLE, OHIO R., CUMBERLAND R., C-15
87°43.7W	37°19.7N	30/11/73	16°36'21	90-032	ILL.-KY.-TENN., OHIO R., BARKLEY LAKE, HOPKINSVILLE
87°20.6W	37°04.6N	30/11/73	16°36'27	90-033	KY.-TENN., HOPKINSVILLE, CUMBERLAND R., CLARKESVILLE
87°07.4W	39°42.3N	24/ 1/74	17°59'22	70-366	IND., ILL., LAFAYETTE, WABASH R., DANVILLE, S-80
87°05.8W	39°52.8N	24/ 1/74	17°59'17	93-228	ILL., IND., WABASH R., DANVILLE, C-25
87°35.4W	40°54.6N	12/ 1/74	16°53'50	64-296	ILL., IND., LAKE MICHIGAN, GARY, CHICAGO, LAFAYETTE, S-100
87°44.0W	40°04.0N	24/ 1/74	17°59'12	70-365	ILL., IND., CHAMPAIGN, URBANA, DANVILLE, LAFAYETTE, S-10, C-60
87°57.2W	40°42.6N	12/ 1/74	16°53'43	92-123	ILL., IND., KANKAKEE, KANKAKEE R., GIBSON CITY, S-100

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
87°35.8W	40°53.6N	12/ 1/74	16°53'49	92-124	ILL., IND., KANKAKEE, CROWN POINT, GARY, S-100
87°47.0W	40°06.6N	24/ 1/74	17°59'11	93-227	ILL., IND., DANVILLE, WABASH R., CHAMPAIGN, URBANA, C-50
87°14.0W	41°04.7N	12/ 1/74	16°53'55	92-125	IND., ILL., CROWN POINT, GARY, MONCH, PORTER, S-100
87°17.6W	42°11.2N	25/ 1/74	17°15'40	▲ 76-011	ILL., WISC., IND., MICH., CHICAGO, GARY, RACINE, BENTON HARBOR
86°15.0W	7°50.6N	1/ 2/74	17°10'50	48-129	PACIFIC O. OFF CENTRAL AMERICA, C-50
86°01.5W	7°33.6N	1/ 2/74	17°10'56	48-130	PACIFIC O. OFF CENTRAL AMERICA, C-60
86°13.4W	7°46.4N	1/ 2/74	17°10'51	94-322	PACIFIC O. OFF CENTRAL AMERICA C-75
86°27.9W	8°10.6N	1/ 2/74	17°10'44	48-128	PACIFIC O. OFF CENTRAL AMERICA, C-30
86°41.7W	8°41.5N	4/12/73	17°03'02	90-363	PACIFIC OCEAN OFF CENTRAL AMERICA C-20 PARTIAL FOG
86°26.0W	8°23.7N	4/12/73	17°03'03	90-364	PACIFIC OCEAN OFF CENTRAL AMERICA C-20, TAPE, FOG
86°53.6W	8°52.6N	1/ 2/74	17°10'32	94-319	PACIFIC O. OFF CENTRAL AMERICA C-25
86°40.1W	8°33.3N	1/ 2/74	17°10'38	94-320	PACIFIC O. OFF CENTRAL AMERICA C-50
86°26.9W	8°07.5N	1/ 2/74	17°10'44	94-321	PACIFIC O. OFF CENTRAL AMERICA C-65
86°56.2W	9°01.6N	4/12/73	17°02'55	90-362	PACIFIC OCEAN OFF CENTRAL AMERICA C-20
86°52.9W	12°56.2N	9/ 1/74	15°44'22	64-144	HONDURAS, NICARAGUA, LEON, CHOLLETECA, LAGO MANAGUA, GOLFO FUNSECA, G-25
86°06.1W	13°55.5N	5/12/73	16°18'40	* 52-350	HONDURAS, NICARAGUA, JUTICALPA, RIO COCO, RIO GUAYAPE, C-60
86°29.5W	13°25.5N	9/ 1/74	15°44'32	64-145	HONDURAS, NICARAGUA, RIO CHOLUTACA, OCOTAL, DANLI, C-50
86°05.8W	13°54.5N	5/ 1/74	15°44'42	64-146	HONDURAS, NICARAGUA, OCOTAL, JUTICALPA, C-75
86°47.0W	14°34.5N	28/ 1/74	18°25'21	A4-062	HONDURAS, TEGUCIGALPA, TALANGA, YORO, JUTICALPA, C-50
86°22.9W	14°05.5N	28/ 1/74	18°25'31	A4-063	HONDURAS, NICARAGUA, TEGUCIGALPA, JUTICALPA DANLI, OCOTAL, C-60
86°53.6W	14°53.3N	5/12/73	16°18'20	* 52-348	HONDURAS, OLANCHITA, JUTICALPA, SALAMA, YORO, C-20
86°29.8W	14°24.3N	5/12/73	16°18'30	* 52-349	HONDURAS, NICARAGUA, JUTICALPA, YORO, DANLI, C-50
86°58.5W	14°58.3N	5/12/73	16°18'18	91-030	HONDURAS, YORO, GUAIMACA, MONTANA DE LA FLOR, C-25
86°43.7W	14°40.3N	5/12/73	16°18'24	91-031	HONDURAS, GUAIMACA, JUTICALPA, RIO GUAYAPE, DANLI, C-30
86°27.2W	14°20.2N	5/12/73	16°18'31	91-032	HONDURAS, NICARAGUA, JUTICALPA, DANLI, EL PARAISO, C-40
86°12.0W	14°01.6N	5/12/73	16°18'38	91-033	HONDURAS, NICARAGUA, EL PARAISO, DANLI, OCOTAL, RIO COCO, C-40
86°55.5W	18°32.7N	8/ 1/74	16°28'50	64-094	MEXICO (QUINTANA ROO), BANCO CHINCHORRO, C-30
86°31.8W	18°55.5N	8/ 1/74	16°29'00	64-095	CARIBBEAN SEA, C-30
86°59.5W	18°27.1N	8/ 1/74	16°28'48	89-304	MEXICO (QUINTANA ROO) BANCO CHINCHORRO, C-40
86°45.3W	18°43.2N	8/ 1/74	16°28'54	89-305	MEXICO (QUINTANA ROO) BANCO CHINCHORRO, C-40
86°22.3W	19°44.5N	1/12/73	17°53'42	* 52-140	CARIBBEAN SEA, C-75
86°06.8W	19°28.1N	8/ 1/74	16°29'10	64-096	CARIBBEAN SEA, C-30,
86°29.8W	19°00.5N	8/ 1/74	16°29'00	89-306	CARIBBEAN SEA, C-35
86°13.4W	19°19.3N	8/ 1/74	16°29'07	89-307	CARIBBEAN SEA, C-30
86°25.2W	24°46.1N	30/ 1/74	16°56'49	A4-217	GULF OF MEXICO, C-30
86°22.6W	24°44.1N	2/12/73	16°49'20	* 52-198	GULF OF MEXICO, C-45
86°29.5W	24°50.1N	2/12/73	16°49'18	90-173	GULF OF MEXICO C-25
86°21.3W	24°41.6N	30/ 1/74	16°56'59	94-190	GULF OF MEXICO, C-20
86°52.9W	25°13.5N	30/ 1/74	16°56'39	A4-216	GULF OF MEXICO, C-35
86°58.5W	25°17.9N	30/ 1/74	16°56'37	94-189	GULF OF MEXICO, C-25
86°12.0W	28°55.6N	6/ 1/74	17°57'40	58-352	GULF OF MEXICO, C-60
86°29.8W	28°38.6N	6/ 1/74	17°57'33	91-361	GULF OF MEXICO, C-65
86°48.6W	29°42.6N	31/ 1/74	16°12'30	A4-362	GULF OF MEXICO, C-82
86°18.6W	29°16.4N	31/ 1/74	16°12'40	A4-363	GULF OF MEXICO, C-70
86°39.7W	29°28.1N	3/12/73	16°05'03	* 52-247	FLA., FT. WALTON BEACH, C-35
86°09.7W	29°02.6N	3/12/73	16°05'13	* 52-248	GULF OF MEXICO, C-25
86°38.7W	29°28.5N	21/ 1/74	20°11'00	64-395	FLA., FT. WALTON BEACH, GULF OF MEXICO
86°08.7W	29°02.7N	21/ 1/74	20°11'10	64-396	GULF OF MEXICO
86°19.3W	29°09.1N	3/12/73	16°05'10	90-228	GULF OF MEXICO C-30
86°45.7W	29°34.6N	21/ 1/74	20°10'59	92-304	GULF OF MEXICO
86°27.2W	29°18.6N	21/ 1/74	20°11'04	92-305	GULF OF MEXICO
86°08.7W	29°01.7N	21/ 1/74	20°11'10	92-306	GULF OF MEXICO
86°07.4W	32°53.7N	22/ 1/74	19°27'12	93-155	ALA., COOSA R., MONTGOMERY, LAKE MARTIN, ALEXANDER CITY
86°48.3W	33°25.6N	22/ 1/74	19°27'00	70-274	ALA., BIRMINGHAM, TUSCALOOSA, COOSA R., TALLEDEGA
86°15.3W	33°00.7N	22/ 1/74	19°27'10	70-275	ALA., MONTGOMERY, COOSA R., MARTIN LAKE, TUSKEGEE
86°47.6W	33°24.1N	22/ 1/74	19°27'00	93-153	ALA., BIRMINGHAM, COOSA R., LAKE C. MARTIN, SMITH RES.
86°27.5W	33°08.5N	22/ 1/74	19°27'06	93-154	ALA., COOSA R., LAKE MITCHELL, LAKE MARTIN, TALLEDEGA
86°33.8W	35°56.5N	14/ 1/74	15°26'30	70-025	TENN., GA., ALA., C-100
86°32.1W	36°34.4N	30/11/73	16°36'40	* 52-063	KY., TENN., NASHVILLE, CUMBERLAND R., BOWLING GREEN
86°06.1W	36°17.6N	4/ 1/74	19°25'40	58-303	TENN., C-100
86°58.2W	36°50.2N	30/11/73	16°36'33	90-034	KY.-TENN., NASHVILLE, CLARKSVILLE, SPRINGFIELD
86°35.4W	36°35.6N	30/11/73	16°36'39	90-035	KY.-TENN., NASHVILLE, BOWLING GREEN, OLD HICKORY LAKE
86°12.7W	36°20.6N	30/11/73	16°36'46	90-036	KY.-TENN., NASHVILLE, OLD HICKORY LAKE, CUMBERLAND R., LEBANON
86°25.2W	39°20.7N	24/ 1/74	17°59'32	70-367	IND., C-95
86°56.2W	39°36.2N	24/ 1/74	17°59'24	93-229	IND., CRAWFORDVILLE, C-50
86°31.5W	39°23.3N	24/ 1/74	17°59'30	93-230	IND., C-100
86°07.4W	39°05.6N	24/ 1/74	17°59'36	93-231	IND., C-100
86°58.5W	41°13.1N	12/ 1/74	16°54'00	54-297	IND., ILL., MICH., CHICAGO, GARY, SOUTH BEND, LAKE MICHIGAN, S-100
86°15.0W	41°34.3N	12/ 1/74	16°54'10	64-298	IND., MICH., SOUTH BEND, MICHIGAN CITY, KALAMAZOO, LAKE MICHIGAN, S-100
86°35.4W	41°51.6N	25/ 1/74	17°15'50	▲ 76-012	ILL., IND., MICH., CHICAGO, GARY, SOUTH BEND, BENTON HARBOR
86°49.0W	41°17.6N	12/ 1/74	16°54'01	92-126	IND., GARY, MICHIGAN CITY, LA PORTE, KANKAKEE R., S-100
86°19.6W	41°31.6N	12/ 1/74	16°54'08	92-127	IND., MICH., SOUTH BEND, ELKHART, NILES, PLYMOUTH, C-40, S-100
85°59.9W	1°26.5N	26/ 1/74	19°54'47	▲ 76-123	PACIFIC O. OFF CENTRAL AMERICA, C-55

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
85°18.7W	6°50.7N	1/ 2/74	17°11'14	48-133	PACIFIC O. OFF CENTRAL AMERICA, C-60
85°04.8W	6°34.7N	1/ 2/74	17°11'20	48-134	PACIFIC O. OFF CENTRAL AMERICA, C-50
85°14.0W	6°44.7N	1/ 2/74	17°11'16	94-326	PACIFIC O. OFF CENTRAL AMERICA C-75
85°00.2W	6°26.5N	1/ 2/74	17°11'22	94-327	PACIFIC O. OFF CENTRAL AMERICA C-50
85°47.0W	7°18.2N	1/ 2/74	17°11'02	48-131	PACIFIC O. OFF CENTRAL AMERICA, C-70
85°32.8W	7°04.6N	1/ 2/74	17°11'08	48-132	PACIFIC O. OFF CENTRAL AMERICA, C-70
85°46.3W	7°25.5N	2/7 1/74	19°10'18	76-263	PACIFIC O. OFF ECUADOR C-45
85°58.9W	7°25.1N	1/ 2/74	17°10'57	94-323	PACIFIC O. OFF CENTRAL AMERICA C-65
85°43.7W	7°14.2N	1/ 2/74	17°11'03	94-324	PACIFIC O. OFF CENTRAL AMERICA C-50
85°29.2W	7°00.1N	1/ 2/74	17°11'09	94-325	PACIFIC O. OFF CENTRAL AMERICA C-50
85°12.4W	12°39.5N	28/ 1/74	18°26'01	A4-066	NICARAGUA, BOAGO, JUICALPA, RIO METAGALPA, LAGO NICARAGUA, C-55
85°38.8W	12°10.7N	25/11/73	19°02'17	* 52-020	NICARAGUA, LAKE NICARAGUA, MANAGUA, LAKE MANAGUA, C-30
85°18.7W	12°56.6N	5/12/73	16°19'00	* 52-352	NICARAGUA, JUICALPA, C-75
85°14.4W	12°50.4N	5/12/73	16°19'02	91-037	NICARAGUA, RIO METAGALPA, RIO MICO, C-70
85°59.2W	13°37.5N	28/ 1/74	18°25'41	A4-064	HONDURAS, NICARAGUA, METAGALPA, OCOIAL, RIO COCU, C-55
85°35.8W	13°08.2N	28/ 1/74	18°25'51	A4-065	NICARAGUA, METAGALPA, RIO METAGALPA, BOAGO, C-55
85°42.4W	13°26.5N	5/12/73	16°18'50	* 52-351	HONDURAS, NICARAGUA, ESTELI, RIO COCO, LAGO APANAS, C-60
85°57.5W	13°43.6N	5/12/73	16°18'44	91-034	HONDURAS, NICARAGUA, RIO COCO, JINDO, LA VIGIA, C-40
85°43.0W	13°26.2N	5/12/73	16°18'50	91-035	NICARAGUA, METAGALPA, JINDO, LAGO APANAS, C-50
85°28.9W	13°06.4N	5/12/73	16°18'56	91-036	NICARAGUA, METAGALPA, RIO METAGALPA, RIO TLMA, C-65
85°42.1W	14°23.5N	5/ 1/74	15°44'52	64-147	HONDURAS, NICARAGUA, JUICALPA, RIO PATUCA, SAN ESTAHAN, C-85
85°19.3W	14°51.4N	9/ 1/74	15°45'01	64-148	HONDURAS, NICARAGUA, RIO COCO, RIO PATUCA, C-75
85°32.2W	18°46.5N	1/12/73	17°34'02	* 52-141	CARIBBEAN SEA, C-65
85°57.5W	19°37.2N	8/ 1/74	16°29'13	89-308	CARIBBEAN SEA, C-25
85°41.7W	19°54.6N	8/ 1/74	16°29'19	89-309	CARIBBEAN SEA, C-20
85°25.6W	20°12.5N	8/ 1/74	16°29'26	89-310	CARIBBEAN SEA, C-20
85°09.8W	20°30.4N	8/ 1/74	16°29'32	89-311	CARIBBEAN SEA, C-15
85°30.5W	23°50.7N	30/ 1/74	16°57'09	A4-219	GULF OF MEXICO, C-30
85°03.8W	23°23.2N	30/ 1/74	16°57'19	A4-220	GULF OF MEXICO, C-35
85°28.5W	23°49.3N	2/12/73	16°49'40	* 52-199	GULF OF MEXICO, C-45
85°07.8W	23°26.5N	30/ 1/74	16°57'17	94-192	GULF OF MEXICO, C-35
85°57.5W	24°18.3N	30/ 1/74	16°56'59	A4-218	GULF OF MEXICO, C-30
85°45.0W	24°04.4N	30/ 1/74	16°57'06	94-191	GULF OF MEXICO, C-20
85°49.0W	28°50.5N	31/ 1/74	16°12'50	A4-364	GULF OF MEXICO, C-35
85°19.6W	28°22.5N	31/ 1/74	16°13'00	A4-365	GULF OF MEXICO, C-25
85°40.4W	28°35.7N	3/12/73	16°05'23	* 52-249	GULF OF MEXICO, C-30
85°11.1W	28°09.1N	3/12/73	16°05'33	* 52-250	GULF OF MEXICO, C-50
85°39.1W	28°36.3N	21/ 1/74	20°11'20	64-397	GULF OF MEXICO C-15
85°09.8W	28°09.8N	21/ 1/74	20°11'30	64-398	GULF OF MEXICO C-25
95°39.1W	28°33.5N	3/12/73	16°05'24	90-229	GULF OF MEXICO C-35
85°36.8W	28°33.4N	21/ 1/74	20°11'21	92-307	GULF OF MEXICO C-20
85°11.7W	29°47.7N	6/ 1/74	17°58'00	58-353	FLA., CAPE SAN BLAS, ST. GEORGE I., C-80
85°50.3W	29°13.1N	6/ 1/74	17°57'47	91-362	GULF OF MEXICO, C-55
85°10.4W	29°47.7N	6/ 1/74	17°58'00	91-363	FLA., CAPE SAN BLAS, ST. GEORGE I., C-65
85°43.0W	32°35.6N	22/ 1/74	19°27'20	70-276	ALA., GA., COLUMBUS, AUBURN, CHATTAHOOCHEE R., LAGRANGE
85°10.4W	32°10.1N	22/ 1/74	19°27'30	70-277	ALA., GA., COLUMBUS, CHATTAHOOCHEE R., AMERICUS, AUBURN
85°47.0W	32°37.5N	22/ 1/74	19°27'18	93-156	ALA., GA., LAKE MARTIN, COOSA R., ALBURN, TUSKEGEE
85°26.9W	32°21.5N	22/ 1/74	19°27'25	93-157	ALA., GA., COLUMBUS, PHENIX CITY, CHATTAHOOCHEE R., EUFULA LAKE
85°06.5W	32°06.1N	22/ 1/74	19°27'31	93-158	ALA., GA., COLUMBUS, CHATTAHOOCHEE R., EUFULA LAKE
85°21.3W	35°47.1N	30/11/73	16°37'00	* 52-065	TENN., CHATTANOOGA, TENNESSEE R., CUMBERLAND PLATEAU
85°20.3W	35°45.5N	18/ 1/74	20°43'01	70-163	TENN., C-95
85°28.2W	35°50.5N	30/11/73	16°36'58	90-038	TENNESSEE, WATT BAR LAKE, MCINNIVILLE, CENTER HILL RES., DAYTON
85°06.3W	35°36.2N	30/11/73	16°37'05	90-039	TENNESSEE, CHATTANOOGA, TENNESSEE R., ATHENS, WATT BAR LAKE
85°56.2W	36°10.7N	30/11/73	16°36'50	* 52-064	KY., TENN., NASHVILLE, CUMBERLAND R., CENTER HILL RES.
85°30.5W	36°41.1N	4/ 1/74	19°25'50	58-304	TENN., KY., C-100
85°58.9W	36°19.5N	14/ 1/74	15°26'40	70-026	KY., TENN., GA., C-100
85°23.3W	36°43.1N	4/ 1/74	15°26'50	70-027	KY., TENN., C-100
85°50.6W	36°05.5N	30/11/73	16°36'52	90-037	TENNESSEE, CENTER HILL RES., CUMBERLAND R., COOKEVILLE
85°58.8W	36°21.4N	4/ 1/74	19°25'41	91-303	KY., TENN., C-100
85°37.4W	36°35.4N	4/ 1/74	19°25'47	91-304	KY., C-100
85°16.0W	36°49.4N	4/ 1/74	19°25'53	91-305	KY., C-100
85°47.0W	38°58.5N	24/ 1/74	17°59'42	70-368	IND., OHIO, KY., C-100
85°08.1W	38°36.5N	24/ 1/74	17°59'52	70-369	OHIO, KY., C-100
85°43.0W	38°55.8N	24/ 1/74	17°59'43	93-232	IND., KY., C-100
85°19.3W	38°42.3N	24/ 1/74	17°59'49	93-233	IND., KY., C-100
85°35.1W	41°53.3N	12/ 1/74	16°54'20	64-299	IND., MICH., OHIO, SOUTH BEND, KALAMAZOO, BATTLE CREEK, S-100, C-30
85°53.9W	41°31.5N	25/ 1/74	17°16'00	▲ 76-013	IND., MICH., SOUTH BEND, ST. JOSEPH R., WINONA LAKE, FT. WAYNE
85°12.4W	41°11.8N	25/ 1/74	17°16'10	▲ 76-014	IND., OHIO, FT. WAYNE, HUNTINGTON, DEFIANCE, MAUMEE R.
85°52.3W	41°44.1N	12/ 1/74	16°54'14	92-128	IND., MICH., SOUTH BEND, ST. JOSEPH R., GOSHEN, C-60, S-100
85°30.9W	41°54.4N	12/ 1/74	16°54'20	92-129	MICH., IND., KALAMAZOO, STURGIS, C-70, S-100
85°02.8W	42°07.5N	12/ 1/74	16°54'26	92-130	MICH., IND., KALAMAZOO, BATTLE CREEK, ALBION, C-40, S-100
84°38.1W	5°56.1N	1/ 2/74	17°11'32	48-136	PACIFIC O. OFF CENTRAL AMERICA, C-30
84°24.6W	5°36.5N	1/ 2/74	17°11'38	48-137	PACIFIC O. OFF COLOMBIA, C-30
84°11.4W	5°20.8N	1/ 2/74	17°11'44	48-138	PACIFIC O. OFF COLOMBIA, C-30
84°32.5W	5°47.7N	1/ 2/74	17°11'34	94-329	PACIFIC O. OFF CENTRAL AMERICA C-15

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B KOLL-FRAME	LOCATION AND COMMENTS
84°18.0W	5°28.6N	1/ 2/74	17°11'41	94-330	PACIFIC O. OFF CENTRAL AMERICA C-20
84°04.2W	5°10.3N	1/ 2/74	17°11'47	94-331	PACIFIC O. OFF CENTRAL AMERICA C-25
84°51.3W	6°14.4N	1/ 2/74	17°11'26	48-135	PACIFIC O. OFF CENTRAL AMERICA, C-40
84°46.4W	6°06.2N	1/ 2/74	17°11'28	94-328	PACIFIC O. OFF CENTRAL AMERICA C-30
84°25.3W	11°40.4N	28/ 1/74	18°26'21	A4-068	NICARAGUA, COSTA RICA, RIO SAN JUAN, PUNTA MICO, LAKE NICARAGUA, C-50
84°02.2W	11°11.2N	28/ 1/74	18°26'31	A4-069	NICARAGUA, COSTA RICA, LAGO NICARAGUA, RIO SAN JUAN, PUNTA MICO, C-60
84°31.9W	11°58.7N	5/12/73	16°19'20	* 52-354	NICARAGUA, COSTA RICA, LAGO NICARAGUA, RIO SAN JUAN, C-70
84°08.8W	11°25.5N	5/12/73	16°19'30	* 52-355	NICARAGUA, COSTA RICA, SAN JUAN DEL NORTE, RIO SAN JUAN, C-70
84°29.2W	11°54.4N	5/12/73	16°19'21	91-040	NICARAGUA, RAMA, RIO MICA, RIO PUNTA GORDA, C-70
84°14.4W	11°35.6N	5/12/73	16°19'28	91-041	NICARAGUA, RIO MAIZ, RIO PUNTA GORDA, C-70
84°00.2W	11°17.5N	5/12/73	16°19'34	91-042	NICARAGUA, COSTA RICA, SAN JUAN DEL NORTE, RIO SAN JUAN, C-75
84°49.0W	12°10.4N	28/ 1/74	18°26'11	A4-067	NICARAGUA, LAGO NICARAGUA, JUIGALPA, RAMA, RIO MICO, C-60
84°55.3W	12°27.8N	5/12/73	16°19'10	* 52-353	NICARAGUA, RAMA, C-75
84°59.9W	12°32.4N	5/12/73	16°19'08	91-038	NICARAGUA, RIO MICA, RIO SIQUIA, C-70
84°44.7W	12°13.7N	5/12/73	16°19'15	91-039	NICARAGUA, RAMA, RIO MICA, RIO SIQUIA, C-75
84°54.3W	15°21.4N	9/ 1/74	15°45'12	64-149	HONDURAS, NICARAGUA, RIO COCO, LAGUNA DE CARATASCA, PUNTA PATUCA, C-70
84°30.2W	15°50.2N	9/ 1/74	15°45'22	64-150	HONDURAS, LAGUNA DE CARATASCA, LAGUNA DE BRUS, RIO PATUCA, C-50
84°05.8W	16°15.4N	9/ 1/74	15°45'32	64-151	HONDURAS, PUNTA PATUCA, CAYOS CAJONES, C-40
84°42.4W	17°54.5N	1/12/73	17°34'22	* 52-142	CARIBBEAN SEA, C-40
84°43.2W	17°41.6N	25/ 1/74	17°41'58	94-142	CARIBBEAN SEA, C-10
84°13.0W	17°07.8N	25/ 1/74	17°42'11	94-143	CARIBBEAN SEA, C-10
84°37.1W	22°55.4N	30/ 1/74	16°57'29	A4-221	CUBA (PINAR DEL RIO), GOLFO DE GUANAHACABIBES, C-20
84°07.1W	22°30.5N	30/ 1/74	16°57'39	A4-222	CUBA (PINAR DEL RIO), GOLFO DE GUANAHACABIBES, CAHC CORRIENTES, C-20
84°34.8W	22°52.2N	2/12/73	16°50'00	* 52-200	CUBA (PINAR DEL RIO) MANTUA, ARCHIPELAGO DE LOS COLORADOS
84°37.8W	23°03.4N	7/12/73	14°50'19	* 52-391	CUBA (PINAR DEL RIO), ARCHIPELAGO DE LOS COLORADOS, C-80
84°44.0W	25°52.7N	7/ 1/74	17°14'00	64-024	GULF OF MEXICO, C-35
84°52.3W	27°55.3N	31/ 1/74	16°13'10	A4-366	GULF OF MEXICO, C-30
84°22.0W	27°29.6N	31/ 1/74	16°13'20	A4-367	GULF OF MEXICO, C-35
84°41.7W	27°42.6N	3/12/73	16°05'43	* 52-251	GULF OF MEXICO, C-50
84°13.1W	27°15.6N	3/12/73	16°05'53	* 52-252	GULF OF MEXICO, C-50
84°40.8W	27°43.1N	21/ 1/74	20°11'40	64-399	GULF OF MEXICO C-25
84°11.7W	27°16.4N	21/ 1/74	20°11'50	* 64-400	GULF OF MEXICO C-20
84°59.5W	27°57.6N	3/12/73	16°05'37	90-230	GULF OF MEXICO C-50
84°21.0W	27°22.2N	3/12/73	16°05'50	90-231	GULF OF MEXICO C-45
84°59.5W	27°59.6N	21/ 1/74	20°11'34	92-308	GULF OF MEXICO C-35
84°23.3W	27°26.1N	21/ 1/74	20°11'46	92-309	GULF OF MEXICO C-20
84°10.8W	30°35.6N	6/ 1/74	17°58'20	58-354	FLA., GA., CARABELLE, C-85
84°38.4W	31°44.7N	22/ 1/74	19°27'40	70-278	ALA., GA., ALBANY, CHATTAHOOCHEE R., EUFAULA, FLINT R.
84°07.1W	31°19.2N	22/ 1/74	19°27'50	70-279	GA., FLA., ALA., ALBANY, FLINT R., MOUTRIE, TIFFIN, VALDCSTIA
84°44.4W	31°48.3N	22/ 1/74	19°27'38	93-159	ALA., GA., EUFAULA LAKE, ALBANY, CHATTAHOOCHEE R.
84°23.9W	31°32.4N	22/ 1/74	19°27'45	93-160	GA., ALBANY, FLINT R., CAMILLA
84°04.2W	31°15.5N	22/ 1/74	19°27'51	93-161	GA., ALBANY, FLINT R., TIFFIN, MOUTRIE
84°11.1W	34°57.7N	18/ 1/74	20°43'21	70-165	GA., S. C., N. C., TENN., C-55
84°02.2W	34°51.7N	30/11/73	16°37'23	90-042	TENN.-GA.-N.C.-S.C., DUCKTOWN (BLIGHT AREA), FONTANA LAKE, GAINESVILLE
84°46.7W	35°23.5N	30/11/73	16°37'10	* 52-066	TENN., N. C., GA., CHATTANOOGA, COPPERHILL AREA, GREAT SMOKY MTS.
84°12.1W	35°00.6N	30/11/73	16°37'20	* 52-067	TENN., N. C., GA., S. C., COPPERHILL AREA, GREAT SMOKY MTS.
84°45.7W	35°21.7N	18/ 1/74	20°43'11	70-164	GA., N. C., TENN., C-55
84°44.7W	35°21.2N	30/11/73	16°37'11	90-040	TENN.-GA.-N.C., DUCKTOWN (BLIGHT AREA), CLEVELAND, CHATTANOOGA
84°23.6W	35°07.2N	30/11/73	16°37'17	90-041	TENN.-GA.-N.C., DUCKTOWN (BLIGHT AREA), FONTANA LAKE
84°54.6W	37°03.7N	4/ 1/74	19°26'00	58-305	TENN., KY., C-100
84°18.0W	37°27.4N	4/ 1/74	19°26'10	58-306	KY., C-100
84°47.0W	37°06.4N	14/ 1/74	15°27'00	70-028	KY., VA., TENN., C-100
84°11.4W	37°28.6N	14/ 1/74	15°27'10	70-029	KY., VA., TENN., C-100
84°53.3W	37°03.6N	4/ 1/74	19°26'00	91-306	KY., C-100
84°29.9W	37°18.6N	4/ 1/74	19°26'06	91-307	KY., C-100
84°06.8W	37°32.5N	4/ 1/74	19°26'12	91-308	KY., C-100
84°31.2W	38°14.6N	24/ 1/74	18°00'02	70-370	KY., C-100
84°55.6W	38°26.2N	24/ 1/74	17°59'55	93-234	KY., C-100
84°32.8W	38°14.6N	24/ 1/74	18°00'01	93-235	KY., C-100
84°31.9W	40°51.5N	25/ 1/74	17°16'20	▲ 76-015	IND., OHIO, FT. WAYNE, LIMA, WAPAKONETA, GRAND LAKE
84°48.3W	42°14.5N	12/ 1/74	16°54'39	64-300	MICH., LANSING, JACKSON, BATTLE CREEK, SAGINAW, S-100, C-35
84°03.5W	42°35.4N	12/ 1/74	16°54'40	64-301	MICH., ONTARIO, DETROIT, FLINT, PONTIAC, ST. CLAIR R., S-100, C-30
84°32.2W	42°21.3N	12/ 1/74	16°54'33	92-131	MICH., JACKSON, LANSING, CHARLOTTE, C-25, S-100
84°02.5W	42°34.5N	12/ 1/74	16°54'40	92-132	MICH., JACKSON, LANSING, FLINT, ANN ARBOR, C-15, S-100
83°05.5W	2°26.1S	26/ 1/74	19°56'05	▲ 76-124	PACIFIC O. OFF CENTRAL AMERICA, C-10
83°03.9W	3°51.4N	1/ 2/74	17°12'14	48-143	PACIFIC O. OFF COLOMBIA, C-45
83°07.8W	3°55.6N	1/ 2/74	17°12'12	94-335	PACIFIC O. OFF CENTRAL AMERICA C-20
83°44.1W	4°44.5N	1/ 2/74	17°11'56	48-140	PACIFIC O. OFF COLOMBIA, C-45
83°30.9W	4°27.3N	1/ 2/74	17°12'02	48-141	PACIFIC O. OFF COLOMBIA, C-50
83°17.0W	4°09.4N	1/ 2/74	17°12'08	48-142	PACIFIC O. OFF COLOMBIA, C-50
83°50.0W	4°51.5N	1/ 2/74	17°11'53	94-332	PACIFIC O. OFF CENTRAL AMERICA C-45
83°35.3W	4°32.5N	1/ 2/74	17°12'00	94-333	PACIFIC O. OFF CENTRAL AMERICA C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
83°21.7W	4°14.1N	1/ 2/74	17°12'06	94-334	PACIFIC O. OFF CENTRAL AMERICA C-35
83°57.6W	5°02.6N	1/ 2/74	17°11'50	48-139	PACIFIC O. OFF COLOMBIA, C-40
83°39.1W	10°41.5N	28/ 1/74	18°26'41	A4-070	COSTA RICA, NICARAGUA, RIO SAN JUAN, SAN JUAN DEL NORTE, C-70
83°16.0W	10°12.5N	28/ 1/74	18°26'51	A4-071	COSTA RICA, C-90
83°22.3W	10°26.5N	5/12/73	16°19'50	* 52-357	NICARAGUA, COSTA RICA, PUERTO LIMON, SAN JUAN DEL NORTE, C-35
83°45.7W	10°59.2N	5/12/73	16°19'40	91-043	NICARAGUA, COSTA RICA, RIO SAN JUAN, SAN JUAN DEL NORTE, C-50
83°31.2W	10°46.5N	5/12/73	16°19'46	91-044	NICARAGUA, COSTA RICA, RIO AGLA FRIA, C-30
83°16.7W	10°22.3N	5/12/73	16°19'53	91-045	COSTA RICA, PUERTO LIMON, MATINA, SIQUIRES, C-30
83°02.9W	10°04.6N	5/12/73	16°19'59	91-046	COSTA RICA, PANAMA, PUERTO LIMON, MATINA, PLANTA CAHUITA, C-20
83°45.7W	11°00.2N	5/12/73	16°19'40	* 52-356	NICARAGUA, COSTA RICA, SAN JUAN DEL NORTE, RIO SAN JUAN, C-40
83°41.8W	16°47.7N	9/ 1/74	15°45'42	64-152	CAYOS CAJONES, C-30
83°18.0W	21°31.2N	30/ 1/74	16°57'59	A4-224	CUBA ISLA DEL PINOS, GOLFO DE BAJABAND, C-15
83°43.7W	22°00.2N	30/ 1/74	16°57'49	A4-223	CUBA (PINAR DEL RIO), CABO CORRIENTES, ISLA DEL PINOS, C-15
83°24.3W	26°36.5N	31/ 1/74	16°13'40	A4-369	GULF OF MEXICO, C-15
83°44.4W	26°49.1N	3/12/73	16°06'03	* 52-253	GULF OF MEXICO, C-35
83°16.0W	26°22.2N	3/12/73	16°06'13	* 52-254	GULF OF MEXICO, C-25
83°47.7W	26°46.7N	7/ 1/74	17°14'20	64-025	GULF OF MEXICO, C-35
83°43.1W	26°45.5N	21/ 1/74	20°12'00	* 64-401	GULF OF MEXICO C-15
83°14.7W	26°22.5N	21/ 1/74	20°12'10	* 64-402	GULF OF MEXICO C-15
83°42.4W	26°46.1N	3/12/73	16°06'04	90-232	GULF OF MEXICO C-30
83°03.9W	26°09.3N	3/12/73	16°06'17	90-233	GULF OF MEXICO C-15
83°47.4W	26°52.5N	21/ 1/74	20°11'59	92-310	GULF OF MEXICO C-10
83°10.1W	26°17.4N	21/ 1/74	20°12'12	92-311	GULF OF MEXICO
83°52.6W	27°03.4N	31/ 1/74	16°13'30	A4-368	GULF OF MEXICO, C-30
83°16.7W	27°14.6N	7/ 1/74	17°14'30	89-198	FLA., ANNA MARIA KEY, LONGBOAT KEY, SARASOTA, C-25
83°35.8W	30°53.4N	22/ 1/74	19°28'00	70-280	GA., FLA., VALDOSTA, TIFTON, TALLAHASSEE, THOMASVILLE
83°11.8W	30°32.4N	22/ 1/74	19°28'08	93-163	GA., FLA., VALDOSTA, JASPER, LIVE OAK, MADISON
83°08.5W	31°30.7N	6/ 1/74	17°58'40	58-355	FLA., GA., C-90
83°45.1W	31°00.2N	22/ 1/74	19°27'57	93-162	GA., FLA., VALDOSTA, THOMASVILLE, MOLLTRIE
83°37.8W	34°34.1N	30/11/73	16°37'30	* 52-068	S. C., GA., N. C., HARTWELL RES., ANDERSON, MT. AIRY
83°03.9W	34°08.7N	30/11/73	16°37'40	* 52-069	GA., S. C., ATHENS, CLARK HILL RES., HARTWELL RES.
83°37.1W	34°33.4N	18/ 1/74	20°43'31	70-166	GA., S. C., N. C., C-100
83°03.2W	34°05.1N	18/ 1/74	20°43'41	70-167	GA., S. C., AUGUSTA, SAVANNAH R., C-85
83°40.8W	34°35.6N	30/11/73	16°37'29	90-043	GA.-N.C.-S.C., GAINESVILLE, HARTWELL RES., S. LANIER RES.
83°19.0W	34°18.5N	30/11/73	16°37'36	90-044	GA.-S.C., GAINESVILLE, ATHENS, SAVANNAH R., HARTWELL RES.
83°41.1W	37°45.7N	4/ 1/74	19°26'20	58-307	KY., C-100
83°31.9W	37°53.7N	14/ 1/74	15°27'12	70-030	KY., VA., TENN., C-100
83°54.0W	37°52.2N	24/ 1/74	18°00'20	70-371	KY., TENN., W. VA., VA., C-100
83°17.0W	37°29.6N	24/ 1/74	18°00'22	70-372	KY., TENN., W. VA., VA., C-100
83°44.1W	37°47.1N	4/ 1/74	19°26'18	91-309	W. VA., KY., C-100
83°03.9W	38°12.3N	4/ 1/74	19°26'30	58-308	KY., W. VA., OHIO, C-100
83°20.7W	38°01.3N	4/ 1/74	19°26'25	91-310	OHIO, W. VA., KY., C-100
83°51.6W	40°30.7N	25/ 1/74	17°16'30	▲ 76-016	OHIO, LIMA, FINDLAY, COLUMBUS, MARION, C-15
83°11.8W	40°10.0N	25/ 1/74	17°16'40	▲ 76-017	OHIO, COLUMBUS, MT. VERNON, CHILLICOTHE, SCIOTO R.,
83°24.9W	42°52.0N	12/ 1/74	16°54'50	64-302	MICH., ONTARIO, LAKE HURON, ST. CLAIR R., DETROIT, S-100, C-30
83°40.4W	42°44.4N	12/ 1/74	16°54'46	92-133	MICH., DETROIT, FLINT, PONTIAC, ANN ARBOR, S-100
83°13.7W	42°55.5N	12/ 1/74	16°54'52	92-134	MICH., ONTARIO, DETROIT, PONTIAC, SARNIA, PORT HURON, S-100
82°23.3W	2°57.8N	1/ 2/74	17°12'32	48-146	PACIFIC O. OFF COLOMBIA, C-50
82°10.1W	2°40.0N	1/ 2/74	17°12'38	48-147	PACIFIC O. OFF ECUADOR, C-50
82°12.4W	2°42.1N	1/ 2/74	17°12'37	94-339	PACIFIC O. OFF ECUADOR C-40
82°50.3W	3°33.7N	1/ 2/74	17°12'20	48-144	PACIFIC O. OFF COLOMBIA, C-45
82°37.2W	3°15.5N	1/ 2/74	17°12'26	48-145	PACIFIC O. OFF COLOMBIA, C-50
82°50.7W	3°34.1N	27/ 1/74	19°11'36	76-264	PACIFIC O. OFF ECUADOR C-55
82°54.3W	3°37.5N	1/ 2/74	17°12'18	94-336	PACIFIC O. OFF CENTRAL AMERICA C-25
82°40.5W	3°15.1N	1/ 2/74	17°12'24	94-337	PACIFIC O. OFF CENTRAL AMERICA C-30
82°26.6W	3°00.5N	1/ 2/74	17°12'30	94-338	PACIFIC O. OFF ECUADOR C-35
82°07.5W	8°44.5N	28/ 1/74	18°27'21	A4-074	COSTA RICA, PANAMA, ISLA PARICA, C-75
82°04.2W	8°45.5N	5/12/73	16°20'24	91-050	PANAMA, LAGUNA CHIRIQUI, VOL. CHIRIQUI, CHIRIQUI, CHIRIQUI GRANDE
82°53.0W	9°43.0N	28/ 1/74	18°27'01	A4-072	COSTA RICA, RIO GRANDE DE TERRABA, C-95
82°30.2W	9°13.9N	28/ 1/74	18°27'11	A4-073	COSTA RICA, PANAMA, C-95
82°36.2W	9°31.8N	5/12/73	16°20'10	* 52-359	COSTA RICA, PANAMA, GUABITO, SIXAOLA, BOCAS DEL TORO, C-25
82°13.4W	9°02.5N	5/12/73	16°20'20	* 52-360	PANAMA, COSTA RICA, BOCAS DEL TORO, DAVID, EL VOLCAN, C-30
82°48.7W	9°46.7N	5/12/73	16°20'05	91-047	COSTA RICA, PANAMA, PUERTO LIMON, GUABITO, SIXAOLA, C-20
82°33.2W	9°26.7N	5/12/73	16°20'12	91-048	COSTA RICA, PANAMA, BOCAS DEL TORO, ALMIRANTE, EL VOLCAN, C-30
82°18.7W	9°08.1N	5/12/73	16°20'18	91-049	PANAMA, ALMIRANTE, BOCAS DEL TORO, BOQUETE, CHIRIQUI VOLCAN, C-35
82°59.2W	10°01.2N	5/12/73	16°20'00	* 52-358	COSTA RICA, PANAMA, PUERTO LIMON, GUABITO, C-25
82°19.5W	14°43.5N	29/ 1/74	17°42'49	94-145	CARIBBEAN SEA, BANCO CABO FALSO, MEDIA LUNA REEF, C-10
82°17.0W	14°38.0N	29/ 1/74	17°42'51	94-146	CARIBBEAN SEA, C-12
82°25.3W	15°11.6N	1/12/73	17°35'18	* 52-143	HONDURAS, NICARAGUA, CABO GRACIAS A DIOS, OFFSHORE REEFS, C-30
82°26.0W	15°11.5N	29/ 1/74	17°42'38	94-144	CARIBBEAN SEA, BANCO CABO FALSO, BANCO DEL CORAL, MEDIA LUNA REEF
82°25.6W	20°35.3N	30/ 1/74	16°58'19	A4-226	CARIBBEAN SEA, C-35

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
82°51.7W	21°C3.3N	30/ 1/74	16°58'09	A4-225	CUBA ISLA DEL PINO, ARCH. DE LOS CANARREOS, C-20
82°26.4W	23°23.5N	8/ 1/74	16°30'34	64-097	CUBA, LA HABANA, GUANAJAY, GULF OF BATABAND, C-30
82°17.7W	23°33.4N	8/ 1/74	16°30'37	89-312	CUBA, LA HABANA, CAMPO FLORIDA, C-3C
82°00.6W	23°5C.5N	8/ 1/74	16°30'44	89-313	FLORIDA STRAIT, FLA., BOCA GRANDE KEY, C-8C
82°27.9W	25°42.1N	31/ 1/74	16°14'00	A4-371	FLA., CAPE ROMANO, C-10
82°00.2W	25°15.5N	31/ 1/74	16°14'10	A4-372	FLA., CAPE ROMANO, FLA. KEYS, KEY WEST, FLA. BAY, C-12
82°48.0W	25°55.2N	3/12/73	16°06'23	* 52-255	GULF OF MEXICO, C-10
82°19.4W	25°27.2N	3/12/73	16°06'33	* 52-256	FLA., FLORIDA BAY, CAPE ROMANO, C-1C
82°46.1W	25°55.5N	21/ 1/74	20°12'20	* 64-403	GULF OF MEXICO FLA., CAPE ROMANO, C-15
82°18.0W	25°27.8N	21/ 1/74	20°12'30	* 64-404	FLA., CAPE ROMANO, FLA. BAY, MARQUESAS KEY
82°26.0W	25°32.4N	3/12/73	16°06'31	90-234	GULF OF MEXICO C-15
82°35.8W	25°44.3N	21/ 1/74	20°12'24	92-312	GULF OF MEXICO
82°00.6W	25°05.5N	21/ 1/74	20°12'36	92-313	FLA., MARQUESAS KEYS, BOCA GRANDE, BOTTOM DETAIL
82°55.9W	26°C9.5N	31/ 1/74	16°13'50	A4-370	FLA., SANIBEL I., CAPE ROMANO, C-1C
82°50.0W	27°40.6N	7/ 1/74	17°14'40	64-026	FLA., TAMPA, ST. PETERSBURG, SARASOTA, CLEARWATER, C-35
82°35.2W	27°53.5N	7/ 1/74	17°14'45	89-199	FLA., ST. PETERSBURG, TAMPA, CLEARWATER, LAKE LAND, SARASOTA, C-25
82°31.6W	29°5E.4N	22/ 1/74	19°28'21	93-164	FLA., LAKE CITY, GAINESVILLE, SUWANNEE R.
82°40.8W	30°07.1N	22/ 1/74	19°28'18	70-281	FLA., GAINESVILLE, LAKE CITY, LIVE OAK, PERRY, ST. JOHN'S R.
82°04.9W	32°21.3N	6/ 1/74	17°59'00	58-356	FLA., GA., C-90
82°30.2W	33°44.5N	30/11/73	16°37'51	* 52-070	GA., S. C., AUGUSTA, SAVANNAH R., CLARK HILL RES.
82°29.9W	33°44.5N	18/ 1/74	20°43'51	70-168	GA., S. C., AUGUSTA, SAVANNAH R., BARNWELL, C-70
82°37.2W	33°42.1N	30/11/73	16°37'48	90-046	GA.-S.C., AUGUSTA, CLARKHILL RES.
82°16.4W	33°32.8N	30/11/73	16°37'55	90-047	GA.-S.C., AUGUSTA, CLARKHILL RES., AIKEN
82°58.3W	34°C3.6N	30/11/73	16°37'42	90-045	GA.-S.C., ATHENS, CLARKHILL RES., HARTWELL RES.
82°04.5W	36°43.6N	24/ 1/74	18°00'42	70-374	TENN., VA., N. C., C-10C
82°40.5W	37°C6.7N	24/ 1/74	18°00'32	70-373	VA., TENN., N. C., C-10C
82°26.3W	38°34.5N	4/ 1/74	19°26'40	58-309	KY., W. VA., OHIO, C-10C
82°55.0W	38°15.6N	14/ 1/74	15°27'30	70-031	W. VA., KY., TENN., VA., C-10C
82°19.0W	38°36.7N	14/ 1/74	15°27'40	70-032	W. VA., OHIO, KY., VA., C-10C
82°57.3W	38°15.3N	4/ 1/74	19°26'31	91-311	OHIO, W. VA., KY., C-10C
82°32.5W	38°29.5N	4/ 1/74	19°26'38	91-312	OHIO, W. VA., C-10
82°08.5W	38°44.3N	4/ 1/74	19°26'44	91-313	OHIO, W. VA., C-10
82°31.9W	39°45.5N	25/ 1/74	17°16'50	▲ 76-018	OHIO, W. VA., OHIO R., COLUMBUS, ATHENS, ZANESVILLE, C-30
82°41.4W	43°10.6N	12/ 1/74	16°55'00	64-303	MICH., ONTARIO, LAKE HURON, ST. CLAIR R., SARNIA, S-100, C-30
82°48.7W	43°06.6N	12/ 1/74	16°54'58	92-135	MICH., ONTARIO, ST. CLAIR R., LAKE HURON, SARNIA, S-100
82°22.3W	43°17.7N	12/ 1/74	16°55'04	92-136	MICH., ONTARIO, LAKE HURON, SARNIA, S-100
81°29.9W	1°46.3N	1/ 2/74	17°12'56	48-150	PACIFIC O. OFF ECUADOR, C-50
81°16.4W	1°28.6N	1/ 2/74	17°13'02	48-151	PACIFIC O. OFF ECUADOR, C-60
81°03.2W	1°1C.8N	1/ 2/74	17°13'08	48-152	PACIFIC O. OFF ECUADOR, C-70
81°29.6W	1°44.8N	1/ 2/74	17°12'56	94-342	PACIFIC O. OFF ECUADOR C-52
81°15.8W	1°26.2N	1/ 2/74	17°13'02	94-343	PACIFIC O. OFF ECUADOR C-65
81°01.6W	1°C7.6N	1/ 2/74	17°13'09	94-344	PACIFIC O. OFF ECUADOR C-65
81°56.6W	2°22.4N	1/ 2/74	17°12'44	48-148	PACIFIC O. OFF ECUADOR, C-5C
81°43.1W	2°C4.1N	1/ 2/74	17°12'50	48-149	PACIFIC O. OFF ECUADOR, C-5C
81°57.9W	2°22.5N	1/ 2/74	17°12'43	94-340	PACIFIC O. OFF ECUADOR C-40
81°43.4W	2°C3.6N	1/ 2/74	17°12'50	94-341	PACIFIC O. OFF ECUADOR C-5C
81°18.1W	6°24.5N	25/11/73	19°04'05	* 52-021	CLOUDS, 100
81°20.7W	7°50.3N	28/ 1/74	18°27'41	A4-076	PANAMA, ISLA COIBA, GOLFO MONTIJO, PEN. DE AZUELO, C-40
81°03.9W	7°32.5N	5/12/73	16°20'50	* 52-363	PANAMA, ISLA COIBA, ISLA CEBACO, PEN. DE AZUELO, SANTIAGO, C-30
81°21.4W	7°53.6N	5/12/73	16°20'43	91-053	PANAMA, ISLA CEBACO, GOLFO DE MONTIJO, SANTIAGO, C-30
81°05.9W	7°34.5N	5/12/73	16°20'49	91-054	PANAMA, GOLFO DE MONTIJO, SANTIAGO, ISLA CEBACO, C-30
81°44.4W	8°21.6N	28/ 1/74	18°27'31	A4-075	PANAMA, ISLA COIBA, ISLA PARIDA, SANTIAGO, GOLFO MONTIJO, C-50
81°50.7W	8°33.2N	5/12/73	16°20'30	* 52-361	PANAMA, DAVID, LAGUNA CHIRIQUE, REMEDIOS, PEN. VALIENTE, C-30
81°27.6W	8°C3.3N	5/12/73	16°20'40	* 52-362	PANAMA, ISLA COIBA, SANTIAGO, REMEDIOS, C-3C
81°49.7W	8°3C.7N	5/12/73	16°20'30	91-051	PANAMA, CHIRIQUE, GOLFO DE CHIRIQUE, REMEDIOS, CERRO SANTIAGO, C-40
81°35.5W	8°12.4N	5/12/73	16°20'37	91-052	PANAMA, REMEDIOS, CERRO SANTIAGO, ISLAS CONTRERAS, C-35
81°35.2W	19°3E.8N	3C/ 1/74	16°58'39	A4-228	GRAN CAYMAN, C-30
81°08.8W	19°11.1N	3C/ 1/74	16°58'49	A4-229	GRAN CAYMAN, C-30
81°30.9W	19°28.5N	2/12/73	16°51'12	* 52-201	GRAND CAYMAN I., C-60
81°15.8W	19°26.6N	7/12/73	14°51'37	* 52-392	GRAND CAYMAN I., C-20
81°59.9W	20°C7.4N	3C/ 1/74	16°58'29	A4-227	CARIBBEAN SEA, C-30
81°59.7W	23°51.6N	8/ 1/74	16°30'44	64-098	FLA., CUBA, SANTA CRUZ DEL NORTE, KEY WEST, MARQUESAS KEY, C-30
81°32.6W	24°47.6N	31/ 1/74	16°14'20	A4-373	FLA., FLA. KEYS, KEY WEST, FLA. BAY, CAPE SABLE
81°24.3W	24°32.6N	3/12/73	16°06'53	* 52-258	FLA., CAPE SABLE, KEY WEST, FLORIDA KEYS, MARQUESAS KEY, C-25
81°33.0W	24°15.2N	8/ 1/74	16°30'54	64-099	FLA., KEY WEST, FLA. BAY, FLA. KEYS, MARQUESAS KEY, C-25
81°06.1W	24°46.1N	8/ 1/74	16°31'04	64-100	FLA., KEY WEST, FLA. BAY, FLA. KEYS, EVERGLADES N.P., C-25
81°22.7W	24°32.9N	21/ 1/74	20°12'50	* 64-406	FLA., CUBA, FLA. STRAIT, BAHIA DE SANTA CLARA, FLA. KEYS, C-15
81°43.8W	24°0E.2N	8/ 1/74	16°30'50	89-314	FLA., FLORIDA KEYS, FLORIDA BAY, KEY WEST, RAMROD KEY, C-30
81°26.6W	24°25.2N	8/ 1/74	16°30'56	89-315	FLA., FLORIDA KEYS, FLORIDA BAY, KEY WEST, MARATHON KEY, C-20
81°10.1W	24°42.5N	8/ 1/74	16°31'02	89-316	FLA., FLORIDA KEYS, KEY LARGO, FLORIDA BAY, FLAMINGO, C-20

LONGITUDE DDD°MM'.M	LATITUDE DD°MM'.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
81°48.7W	24°55.5N	3/12/73	16°06'44	90-235	FLORIDA, KEY WEST, PIRATES COVE, BOCA GRANDE KEY C-30
81°12.1W	24°19.3N	3/12/73	16°06'58	90-236	FLORIDA, KEYS, PIGEON KEY, BIG PINE C-35
81°26.3W	24°35.4N	21/ 1/74	20°12'49	92-314	FLA., KEY WEST, FLA. BAY, MARATHON KEY
81°51.7W	25°00.0N	3/12/73	16°06'43	* 52-257	FLA., FLORIDA BAY, CAPE SABLE, FLAMINGO, KEY WEST, C-25
91°50.4W	25°00.5N	21/ 1/74	20°12'40	* 64-405	FLA., FLA. KEYS, KEY WEST, FLA. BAY, STRAIT, C-15
81°51.3W	28°34.0N	7/ 1/74	17°15'00	64-027	FLA., ORLANDO, DISNEYWORLD, LAKE LAND, TITUSVILLE, KSC, C-30
81°53.3W	28°31.1N	7/ 1/74	17°14'59	89-200	FLA., ORLANDO, LAKE LAND, DISNEYWORLD, WINTER GARDEN, C-25
81°10.1W	28°47.5N	22/ 1/74	19°28'48	93-166	FLA., J. F. KENNEDY SPACE CENTER, COMPLEX 36, ORLANDO, DAYTONA BEACH
81°40.1W	29°14.9N	22/ 1/74	19°28'33	70-282	FLA., DAYTONA BEACH, ORLANDO, OSCALA, ST. JOHN'S R., LEESBURG, C-10
81°10.8W	29°08.0N	7/ 1/74	17°15'13	89-201	FLA., DAYTONA BEACH, SANFORD, DELAND, C-20
81°50.7W	29°23.0N	22/ 1/74	19°28'34	93-165	FLA., LAKE GEORGE, OCALA, PALATKA, ST. JOHNS R.
81°24.0W	32°54.7N	18/ 1/74	20°44'11	70-170	GA., S. C., SAVANNAH BEACH, HILTON HEAD, WALTERBURG, C-50
81°15.8W	32°54.1N	30/11/73	16°38'14	90-050	GA.-S.C., SAVANNAH R., SAVANNAH, YEMASSEE
81°13.8W	32°46.2N	18/ 1/74	20°44'14	92-192	S. C. GA., BROAD R., WALTERBURG, C-3C
81°57.6W	33°20.0N	30/11/73	16°38'00	* 52-071	GA., S. C., SAVANNAH R., AUGUSTA, AIKEN
81°26.6W	33°05.5N	30/11/73	16°38'10	* 52-072	GA., S. C., SAVANNAH, SAVANNAH R., EDISTO R.
81°00.3W	33°11.4N	6/ 1/74	17°59'20	58-357	GA., C-90
81°56.6W	33°15.6N	18/ 1/74	20°44'01	70-169	GA., S. C., WALTERBURG, BARNWELL, ORANGEBURG, C-50
81°57.3W	33°15.6N	30/11/73	16°38'01	90-048	GA.-S.C., AUGUSTA, SAVANNAH R., WAYNEBURG, BARNWELL
81°36.8W	33°11.4N	30/11/73	16°38'07	90-049	GA.-S.C., SAVANNAH R., ALLENDALE, BARNWELL, FAIRFAX
81°28.9W	36°20.2N	24/ 1/74	18°00'52	70-375	TENN., VA., N. C., S. C., C-100
81°52.0W	38°52.8N	4/ 1/74	19°26'50	58-310	W. VA., OHIO, C-100
81°41.1W	38°56.4N	14/ 1/74	15°27'50	70-033	W. VA., OHIO, KY., C-100
81°50.0W	38°53.0N	4/ 1/74	19°26'50	91-314	OHIO, W. VA., C-10
81°49.4W	38°52.8N	14/ 1/74	15°27'47	93-002	W. VA., OHIO, KY., C-100
81°10.5W	39°17.4N	4/ 1/74	19°27'00	58-311	W. VA., OHIO, C-100
81°52.7W	39°28.4N	25/ 1/74	17°17'00	▲ 76-019	OHIO, W. VA., OHIO R., PARKERSBURG, MARTETTA, ATHENS, C-30
81°14.1W	39°06.7N	25/ 1/74	17°17'10	▲ 76-020	OHIO, W. VA., OHIO R., PARKERSBURG, KANAWHA R., C-50
81°28.9W	39°03.6N	4/ 1/74	19°26'56	91-315	OHIO, W. VA., C-10
81°24.3W	39°07.3N	14/ 1/74	15°27'54	93-003	W. VA., OHIO, C-100
81°57.6W	43°28.6N	12/ 1/74	16°55'10	64-304	MICH., ONTARIO, LAKE HURON, SARNIA, GODERICH, S-100, C-45
81°12.1W	43°47.2N	12/ 1/74	16°55'20	64-305	ONTARIO, LAKE HURON, GEORGIAN BAY, S-100, C-60
80°09.5W	0°00.5S	1/ 2/74	17°13'14	48-156	ECUADOR COAST AT BAHIA DE CARALEZ, C-70
80°05.2W	0°06.5S	27/ 1/74	19°12'50	76-266	ECUADOR, CABO PASADA, CABO SAN FRANCISCO, C-60
80°06.2W	0°06.2S	1/ 2/74	17°13'33	94-348	PACIFIC O. OFF ECUADOR C-90
80°49.7W	0°52.7N	1/ 2/74	17°13'14	48-153	PACIFIC O. OFF ECUADOR, C-70
80°36.5W	0°34.5N	1/ 2/74	17°13'20	48-154	ECUADOR COAST, C-60
80°23.0W	0°17.1N	1/ 2/74	17°13'26	48-155	ECUADOR COAST, C-60
80°27.3W	0°23.2N	27/ 1/74	19°12'40	76-265	ECUADOR, CABO PASADA, CABO SAN FRANCISCO, C-30
80°47.7W	0°45.1N	1/ 2/74	17°13'15	94-345	PACIFIC O. OFF ECUADOR C-65
80°34.2W	0°31.0N	1/ 2/74	17°13'21	94-346	PACIFIC O. OFF ECUADOR C-50
80°20.4W	0°12.3N	1/ 2/74	17°13'27	94-347	PACIFIC O. OFF ECUADOR C-70
80°01.1W	5°45.5N	26/ 1/74	18°28'21	44-079	PACIFIC O., C-100
80°34.2W	6°43.4N	28/ 1/74	18°28'01	44-078	PANAMA, PEN. DE AZUERO, C-55
80°20.1W	6°34.8N	5/12/73	16°21'10	* 52-365	PANAMA, PEN. DE AZUERO, C-40
80°24.7W	6°40.6N	5/12/73	16°21'08	91-057	PACIFIC O. OFF PANAMA, C-30
80°10.2W	6°21.0N	5/12/73	16°21'14	91-058	PACIFIC O. OFF PANAMA, C-35
80°56.3W	7°12.4N	28/ 1/74	18°27'51	44-077	PANAMA, PEN. DE AZUERO, ISLA COIBA, C-60
80°42.8W	7°06.6N	5/12/73	16°21'00	* 52-364	PANAMA, PEN. DE AZUERO, C-40
80°52.7W	7°18.0N	5/12/73	16°20'55	91-055	PANAMA, PEN. DE AZUERO, PUNTA NARANJOS, C-3C
80°38.8W	7°00.4N	5/12/73	16°21'02	91-056	PANAMA, PEN. DE AZUERO, PUNTA GLANICO, C-35
80°03.2W	12°14.5N	1/12/73	17°36'18	* 52-144	CARIBBEAN SEA, C-30
80°43.5W	18°42.2N	30/ 1/74	16°58'59	A4-230	CARIBBEAN SEA, C-20
80°18.4W	18°13.7N	30/ 1/74	16°59'09	A4-231	CARIBBEAN SEA, C-15
80°35.5W	23°42.0N	3/12/73	16°07'11	90-237	CUBA, ARCHPIELAGO DE SABANA, CAY SAL BANK C-20
80°57.0W	24°05.1N	3/12/73	16°07'03	* 52-259	FLA., KEY LARGO, GREAT BAHAMA BANKS, C-25
80°55.3W	24°05.4N	21/ 1/74	20°13'00	* 64-407	JAMAICA, PORT ANTONIO, FORMIN GAS BANK, C-15
80°52.7W	24°55.3N	8/ 1/74	16°31'08	89-317	FLA., FLORIDA KEYS, FLORIDA BAY, KEY LARGO, CAPE SABLE, C-25
80°39.1W	25°14.1N	8/ 1/74	16°31'14	64-101	FLA., MIAMI, KEY LARGO, EVERGLADES, FLA. BAY, C-30
80°11.6W	25°41.6N	8/ 1/74	16°31'24	64-102	FLA., KEY LARGO, MIAMI, WEST PALM BEACH, FT. LAUDERDALE, C-35
80°35.2W	25°16.4N	8/ 1/74	16°31'15	89-318	FLA., MIAMI, CORAL GABLES, HOMESTEAD, EVERGLADES, C-25
80°17.7W	25°33.6N	8/ 1/74	16°31'21	89-319	FLA., MIAMI, MIAMI BEACH, KEY BISCAYNE, FT. LAUDERDALE, C-20
80°00.3W	25°50.5N	8/ 1/74	16°31'27	89-320	FLA., MIAMI, MIAMI BEACH, FT. LAUDERDALE, BOCA RATON, HIALEAH, C-30
80°40.2W	28°21.7N	22/ 1/74	19°28'58	70-283	FLA., KSC, CAPE CANAVERAL, ORLANDO, KISSIMMEE, C-20
80°30.9W	28°12.3N	22/ 1/74	19°29'01	93-167	FLA., J. F. KENNEDY SPACE CENTER, CAPE CANAVERAL, MELBOURNE, C-15
80°52.0W	29°26.4N	7/ 1/74	17°15'20	64-028	FLA., PALATKA, ST. JOHNS R., DAYTONA BEACH, KSC, C-15
80°27.6W	29°46.4N	7/ 1/74	17°15'28	89-202	ATLANTIC O. OFF FLA.
80°12.8W	31°56.0N	18/ 1/74	20°44'33	92-195	S. C., PRICHARD I., EDISTO I., C-65
80°53.0W	32°31.7N	30/11/73	16°38'20	* 52-073	GA., S. C., SAVANNAH, SAVANNAH R., SEA ISLE COAST
80°20.7W	32°06.3N	30/11/73	16°38'30	* 52-074	GA., S. C., SAVANNAH, SAVANNAH R., SEA ISLE COAST

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
80°50.4W	32°28.5N	18/ 1/74	20°44'22	70-171	GA., S. C., SAVANNAH BEACH, HILTON HEAD, BEAUFORT, C-60
80°18.4W	32°03.5N	18/ 1/74	20°44'32	70-172	GA., S. C., SAVANNAH BEACH, HILTON HEAD, PARRIS I., ST. HELENA SOUND
80°54.7W	32°32.2N	30/11/73	16°38'20	90-051	GA.-S.C., SAVANNAH, SAVANNAH R., BEAUFORT, PORT ROYAL SOUND
80°34.6W	32°16.2N	30/11/73	16°38'26	90-052	GA.-S.C., SAVANNAH, BEAUFORT, HILTON HEAD, EDISTO ISLAND
80°15.1W	32°00.6N	30/11/73	16°38'32	90-053	GA.-S.C., SAVANNAH BEACH, HILTON HEAD, EDISTO ISLAND
80°53.0W	32°30.0N	18/ 1/74	20°44'21	92-193	S. C., GA., SAVANNAH, HILTON HEAD, BEAUFORT, C-30
80°33.2W	32°14.4N	18/ 1/74	20°44'27	92-194	GA., S. C., SAVANNAH BEACH, HILTON HEAD, PARRIS I., C-40
80°53.4W	35°56.7N	24/ 1/74	18°01'02	70-376	N. C., S. C., C-100
80°18.4W	35°33.1N	24/ 1/74	18°01'12	70-377	N. C., S. C., C-96
80°35.9W	38°44.6N	25/ 1/74	17°17'20	▲ 76-021	W. VA., ALLEGHENY PLATEAU, ALLEGHENY MTS., C-80
80°30.9W	39°40.0N	4/ 1/74	19°27'10	58-312	W. VA., OHIO, OHIO R., C-90
80°58.6W	39°23.2N	14/ 1/74	15°28'00	70-034	PA., W. VA., OHIO, C-100
80°19.7W	39°44.6N	14/ 1/74	15°28'10	70-035	PA., W. VA., OHIO, C-100
80°57.3W	39°24.6N	4/ 1/74	19°27'02	91-316	PA., OHIO, W. VA., C-99
80°33.2W	39°37.7N	4/ 1/74	19°27'09	91-317	PA., OHIO, W. VA., C-96
80°08.8W	39°50.6N	4/ 1/74	19°27'15	91-318	PA., W. VA., PITTSBURGH, C-60
80°58.6W	39°22.3N	14/ 1/74	15°28'00	93-004	W. VA., OHIO, C-100
80°33.6W	39°36.3N	14/ 1/74	15°28'06	93-005	PA., MD., W. VA., C-100
80°10.8W	39°48.5N	14/ 1/74	15°28'12	93-006	PA., MD., W. VA., C-100
80°27.6W	44°04.6N	12/ 1/74	16°55'30	64-306	ONTARIO, GEORGIAN BAY, LAKE ONTARIO, TORONTO, S-100, C-45
79°16.1W	1°12.4S	1/ 2/74	17°13'56	48-160	EQUADOR RIO CATAMAMA, C-80
79°02.9W	1°30.7S	1/ 2/74	17°14'02	48-161	EQUADOR ANDES S. OF QUITO, C-85
79°20.7W	1°06.2S	27/ 1/74	19°13'10	76-268	EQUADOR, LATACUNGA, QUEVEDO, C-85
79°24.4W	1°02.2S	1/ 2/74	17°13'52	94-351	EQUADOR, C-90, OVEREXPOSED
79°10.5W	1°21.3S	1/ 2/74	17°13'58	94-352	EQUADOR, C-90, OVEREXPOSED
79°56.3W	0°18.7S	1/ 2/74	17°13'38	48-157	EQUADOR COAST AT BAHIA DE CARAQUEZ, C-75
79°42.8W	0°36.3S	1/ 2/74	17°13'44	48-158	EQUADOR COAST AT BAHIA DE CARAQUEZ, C-80
79°29.6W	0°54.0S	1/ 2/74	17°13'50	48-159	EQUADOR ANDES S. OF QUITO, C-80
79°42.8W	0°36.3S	27/ 1/74	19°13'00	76-267	EQUADOR, CABO PASADA, QUEVEDO, C-50
79°52.4W	0°24.6S	1/ 2/74	17°13'40	94-349	EQUADOR, C-100, OVEREXPOSED
79°38.2W	0°43.3S	1/ 2/74	17°13'46	94-350	EQUADOR, C-96, OVEREXPOSED
79°06.9W	4°48.4N	28/ 1/74	18°28'41	A4-081	PACIFIC O. OFF COLOMBIA, C-65
79°29.6W	5°18.2N	28/ 1/74	18°28'31	A4-080	PACIFIC O. OFF COLOMBIA, C-60
79°34.9W	5°35.3N	5/12/73	16°21'30	* 52-367	PACIFIC O., C-80
79°12.5W	5°05.6N	5/12/73	16°21'40	* 52-368	PACIFIC O., C-90
79°41.8W	5°43.6N	5/12/73	16°21'27	91-060	PACIFIC O. OFF PANAMA, C-90
79°27.7W	5°25.0N	5/12/73	16°21'33	91-061	PACIFIC O. OFF PANAMA, C-95
79°13.5W	5°06.3N	5/12/73	16°21'40	91-062	PACIFIC O. OFF COLOMBIA, C-53
79°57.3W	6°04.8N	5/12/73	16°21'20	* 52-366	PACIFIC O., C-60
79°56.0W	6°02.2N	5/12/73	16°21'21	91-059	PACIFIC O. OFF PANAMA, C-60
79°05.2W	16°47.4N	30/ 1/74	16°59'39	A4-234	CARIBBEAN SEA, RAJO NUEVO REEF, C-15
79°03.6W	16°34.5N	2/12/73	16°52'12	* 52-202	CARIBBEAN SEA, PEDRO BAN C-30
79°53.7W	17°45.2N	30/ 1/74	16°59'19	A4-232	CARIBBEAN SEA, C-15
79°30.0W	17°15.6N	30/ 1/74	16°59'29	A4-233	CARIBBEAN SEA, C-10
79°43.6W	26°08.5N	8/ 1/74	16°31'34	64-103	FLA., MIAMI, WEST PALM BEACH, FT. LAUDERDALE, BOCA RATON, C-35
79°15.1W	26°35.5N	8/ 1/74	16°31'44	64-104	FLA., BAHAMAS, WEST PALM BEACH, GRAND BAHAMA I., C-30
79°42.8W	26°07.5N	8/ 1/74	16°31'34	89-321	ATLANTIC O. OFF CAROLINAS, C-35
79°41.8W	27°28.3N	22/ 1/74	19°29'18	70-284	FLA., FT. PIERCE, VERO BEACH, PALM BEACH, STUART, C-20
79°51.7W	27°36.5N	22/ 1/74	19°29'15	93-168	FLA., MELBOURNE, VERO BEACH, C-20
79°13.5W	27°00.6N	22/ 1/74	19°29'28	93-169	BAHAMAS, FLORIDA STRAIT, GRAND BAHAMA I., C-15
79°51.1W	30°18.7N	7/ 1/74	17°15'40	64-029	ATLANTIC O. EAST OF FLA., C-10
79°43.5W	30°24.1N	7/ 1/74	17°15'42	89-203	ATLANTIC O. OFF FLA.
79°49.1W	31°40.5N	30/11/73	16°38'40	* 52-075	ATLANTIC O. OFF GA.
79°17.8W	31°15.7N	30/11/73	16°38'50	* 52-076	ATLANTIC O. OFF GA., C-10
79°46.8W	31°38.1N	18/ 1/74	20°44'41	70-173	ATLANTIC O. EAST OF GA., C-60
79°15.1W	31°12.4N	18/ 1/74	20°44'51	70-174	ATLANTIC O. EAST OF GA., C-40
79°54.7W	31°44.5N	30/11/73	16°38'39	90-054	ATLANTIC OCEAN OFF GEORGIA
79°34.9W	31°28.5N	30/11/73	16°38'45	90-055	ATLANTIC OCEAN OFF GEORGIA
79°15.5W	31°12.7N	30/11/73	16°38'51	90-056	ATLANTIC OCEAN OFF GEORGIA
79°33.3W	31°26.2N	18/ 1/74	20°44'46	92-196	ATLANTIC O. OFF GA., C-40
79°13.1W	31°05.6N	18/ 1/74	20°44'52	92-197	ATLANTIC O. OFF GA., C-35
79°53.7W	34°01.1N	6/ 1/74	17°59'40	58-358	S.C., C-88
79°08.2W	34°45.6N	24/ 1/74	18°01'32	70-379	N. C., S. C., FAYETTEVILLE, LUMBER R., CAROLINA 'BAYS' S-65
79°43.1W	35°05.5N	24/ 1/74	18°01'22	70-378	S. C., N. C., PEE DEE RIVER, C-85
79°20.7W	37°59.3N	25/ 1/74	17°17'40	▲ 76-023	W. VA., VA., C-90
79°58.3W	38°22.7N	25/ 1/74	17°17'30	▲ 76-022	W. VA., VA., ALLEGHENY MTS., GREENBRIER R., C-90
79°43.8W	38°18.7N	20/ 1/74	17°16'50	92-250	N.C.-VA., C-100
79°51.4W	40°01.2N	4/ 1/74	19°27'20	58-313	W. VA., OHIO, PA., PITTSBURGH, OHIO R., C-80
79°11.5W	40°22.3N	4/ 1/74	19°27'30	58-314	W. VA., OHIO, PA., PITTSBURGH, OHIO R., C-80
79°42.8W	40°03.5N	14/ 1/74	15°28'20	70-036	PA., W. VA., C-100
79°02.9W	40°25.1N	14/ 1/74	15°28'30	70-037	PA., MD., W. VA., C-100
79°43.8W	40°04.4N	4/ 1/74	19°27'21	91-319	PA., PITTSBURGH, S-100, C-80
79°18.8W	40°17.5N	4/ 1/74	19°27'27	91-320	PA., JOHNSTOWN, PITTSBURGH, ALLEGHENY R., S-100, C-75

LONGITUDE ODD°MM.M	LATITUDE ODD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
79°47.1W	40°00.5N	14/ 1/74	15°28'19	93-007	PA., MD., W. VA., C-100
79°23.4W	40°13.1N	14/ 1/74	15°28'25	93-008	PA., C-100
79°42.2W	44°21.5N	12/ 1/74	16°55'40	64-307	ONTARIO, GEORGIAN BAY, TORONTO, LAKE SIMCOE, OSHAWA, S-100, C-20
78°36.6W	2°07.3S	1/ 2/74	17°14'14	48-163	ECUADOR ANDES AT CUENCA, C-80
78°23.1W	2°25.1S	1/ 2/74	17°14'20	48-164	ECUADOR ANDES AMAZON BASIN, C-75
78°09.9W	2°42.6S	1/ 2/74	17°14'26	48-165	ECUADOR PERU, ANDES, AMAZON BASIN, C-75
78°35.9W	2°05.8S	27/ 1/74	19°13'30	76-270	ECUADOR, RIO PASTAZA, C-85
78°12.5W	2°35.8S	27/ 1/74	19°13'40	76-271	ECUADOR, RIO MORONA, RIO SANTIAGO, C-80
78°42.2W	2°00.7S	1/ 2/74	17°14'11	94-354	ECUADOR, C-90, OVEREXPOSED
78°28.3W	2°19.2S	1/ 2/74	17°14'17	94-355	ECUADOR, C-90, OVEREXPOSED
78°14.2W	2°37.8S	1/ 2/74	17°14'24	94-356	ECUADOR, ANDES, AMAZON BASIN, C-80
78°00.6W	2°55.5S	1/ 2/74	17°14'30	94-357	ECUADOR, AMAZON BASIN, RIO SANTIAGO, C-70
78°50.1W	1°48.8S	1/ 2/74	17°14'08	48-162	ECUADOR ANDES NEAR CUENCA, C-80
78°58.3W	1°35.8S	27/ 1/74	19°13'20	76-269	ECUADOR, LATACUNGA, QUEVEDO, RIO PASTAZA, C-80
78°55.7W	1°42.1S	1/ 2/74	17°14'05	94-353	ECUADOR, C-90, OVEREXPOSED
78°22.1W	3°49.2N	28/ 1/74	18°29'01	A4-083	PACIFIC O. OFF COLOMBIA, C-50
78°00.0W	3°15.6N	28/ 1/74	18°29'11	A4-084	COLOMBIA, ISLA AJI, ISLA SAN JOSE, C-50
78°05.3W	3°36.7N	5/12/73	16°22'10	* 52-371	COLOMBIA, PACIFIC COAST, ISLA AJI, RIO ISLANDE, C-70
78°16.8W	3°50.5N	5/12/73	16°22'05	91-066	PACIFIC O. OFF COLOMBIA, C-80
78°02.9W	3°32.6N	5/12/73	16°22'11	91-067	PACIFIC O. OFF COLOMBIA, C-70
78°44.5W	4°18.5N	28/ 1/74	18°28'51	A4-082	PACIFIC O. OFF COLOMBIA, C-80
78°50.1W	4°36.3N	5/12/73	16°21'50	* 52-369	PACIFIC O., C-80
78°28.0W	4°06.5N	5/12/73	16°22'00	* 52-370	PACIFIC O., C-70
78°58.3W	4°46.2N	5/12/73	16°21'46	91-063	PACIFIC O. OFF COLOMBIA, C-90
78°44.5W	4°27.8N	5/12/73	16°21'53	91-064	PACIFIC O. OFF COLOMBIA, C-80
78°30.6W	4°05.3N	5/12/73	16°21'59	91-065	PACIFIC O. OFF COLOMBIA, C-80
78°16.5W	15°49.0N	30/ 1/74	16°59'59	A4-236	CARIBBEAN SEA, C-45
78°57.0W	15°45.0N	7/12/73	14°52'36	* 52-393	CARIBBEAN SEA, SERRANILLA BANK, C-10
78°40.8W	16°18.1N	30/ 1/74	16°59'49	A4-235	CARIBBEAN SEA, RAJO NUEVO REEF, C-30
78°43.8W	26°33.5N	22/ 1/74	19°29'38	70-285	BAHAMAS, GRAND BAHAMA I., FREEPORT, WEST END, C-10
78°34.9W	26°24.3N	22/ 1/74	19°29'41	93-170	BAHAMAS, GRAND BAHAMA I., FREEPORT, UNIQUE LAND DEVELOPMENT, C-15
78°46.5W	27°02.2N	8/ 1/74	16°31'54	64-105	BAHAMAS, GRAND BAHAMA I., WALKER CAY, C-30
78°17.8W	27°28.5N	8/ 1/74	16°32'04	64-106	BAHAMAS, WALKER CAY, C-20
78°46.5W	30°49.3N	30/11/73	16°39'00	* 52-077	ATLANTIC O. OFF GA., C-20
78°43.8W	30°46.7N	18/ 1/74	20°45'01	70-175	ATLANTIC O. EAST OF GA., C-40
78°13.2W	30°20.8N	18/ 1/74	20°45'11	70-176	ATLANTIC O. EAST OF GA., C-40
78°53.4W	30°53.6N	18/ 1/74	20°44'58	92-198	ATLANTIC O. OFF GA., C-30
78°34.3W	30°37.8N	18/ 1/74	20°45'04	92-199	ATLANTIC O. OFF GA., C-30
78°14.8W	30°21.5N	18/ 1/74	20°45'11	92-200	ATLANTIC O. OFF GA., C-30
78°49.4W	31°10.1N	7/ 1/74	17°16'00	64-030	ATLANTIC O. EAST OF FLA., C-30
78°59.6W	31°00.7N	7/ 1/74	17°15'56	89-204	ATLANTIC O. OFF FLA. C-15
78°14.8W	31°37.3N	7/ 1/74	17°16'11	89-205	ATLANTIC O. OFF GA. C-20
78°00.6W	33°56.5N	24/ 1/74	18°01'52	70-381	N. C., S. C., CAPE LOOKOUT, MYRTLE BEACH, WILMINGTON, C-65
78°45.8W	34°49.5N	6/ 1/74	18°00'00	58-359	N.C., C-98
78°34.3W	34°21.4N	24/ 1/74	18°01'42	70-380	N. C., S. C., CAPE LOOKOUT, MYRTLE BEACH, CONWAY, WILMINGTON, C-70
78°21.1W	37°23.4N	20/ 1/74	19°17'10	70-223	N. C., VA., KERR RES., C-95
78°43.8W	37°36.2N	25/ 1/74	17°17'50	▲ 76-024	VA., C-100
78°07.2W	37°13.5N	25/ 1/74	17°18'00	▲ 76-025	VA., C-100
78°31.0W	40°43.4N	4/ 1/74	19°27'40	58-315	PA., ALLEGHENY R., ALLEGHENY MTS., C-40, S-80
78°21.4W	40°46.5N	14/ 1/74	15°28'40	70-038	PA., MD., W. VA., C-95, S-100
78°53.7W	40°30.7N	4/ 1/74	19°27'34	91-321	PA., ALTOONA, JOHNSTOWN, IND., PUNXSUTAWNEY, S-100, C-60
78°28.3W	40°43.5N	4/ 1/74	19°27'40	91-322	PA., ALTOONA, STATE COLLEGE, TYRONE, S-100, C-400
78°02.6W	40°57.3N	4/ 1/74	19°27'46	91-323	PA., STATE COLLEGE, CLEARFIELD, BELLEFONTE, S-100, C-30
78°57.0W	40°27.3N	14/ 1/74	15°28'31	93-009	PA., C-100
78°31.3W	40°40.5N	14/ 1/74	15°28'37	93-010	PA., C-100
78°05.3W	40°54.1N	14/ 1/74	15°28'44	93-011	PA., C-98, S-100
78°56.0W	44°35.1N	12/ 1/74	16°55'50	64-308	ONTARIO, LAKE SIMCOE, PETERBOROUGH, S-100
78°09.5W	44°55.7N	12/ 1/74	16°56'00	64-309	ONTARIO, QUEBEC, CALABOGIE, BAPTISTE LAKE, S-100
77°02.3W	4°12.1S	1/ 2/74	17°14'56	48-170	PERU, RIO SANTIAGO, RIO MORONA, RIO MARANON, C-60
77°04.6W	4°06.0S	27/ 1/74	19°14'11	76-274	PERU, RIO MORONA, RIO MARANON, C-65
77°04.9W	4°10.1S	1/ 2/74	17°14'55	94-361	PERU, RIO MARANON, RIO MORONA, C-55
77°56.4W	3°00.4S	1/ 2/74	17°14'32	48-166	ECUADOR PERU, ANDES, RIO SANTIAGO, C-70
77°42.8W	3°18.5S	1/ 2/74	17°14'38	48-167	ECUADOR PERU, RIO SANTIAGO, RIO MORONA, C-70
77°29.3W	3°36.1S	1/ 2/74	17°14'44	48-168	PERU, RIO SANTIAGO, RIO MORONA, RIO MARANON, C-70
77°16.1W	3°53.5S	1/ 2/74	17°14'50	48-169	PERU, RIO SANTIAGO, RIO MORONA, RIO MARANON, C-65
77°51.4W	3°05.0S	27/ 1/74	19°13'50	76-272	ECUADOR, PERU, RIO MORONA, RIO SANTIAGO, C-75
77°28.3W	3°35.8S	27/ 1/74	19°14'01	76-273	ECUADOR, PERU, RIO SANTIAGO, C-65
77°46.8W	3°14.4S	1/ 2/74	17°14'36	94-358	ECUADOR, RIO SANTIAGO, RIO MORONA, C-70
77°32.3W	3°33.5S	1/ 2/74	17°14'42	94-359	ECUADOR, PERU, RIO SANTIAGO, RIO MORONA, C-60
77°18.8W	3°51.6S	1/ 2/74	17°14'49	94-360	PERU, RIO SANTIAGO, RIO MORONA, C-60
77°37.6W	2°49.7N	28/ 1/74	18°29'21	A4-085	COLOMBIA, ISLA AJI, CORDILLERA OCCIDENTAL, C-70
77°15.5W	2°20.2N	28/ 1/74	18°29'31	A4-086	COLOMBIA, RIO CUAGO, RIO PATIA, C-80
77°20.8W	2°37.5N	5/12/73	16°22'30	* 52-373	COLOMBIA, CORDILLERA OCCIDENTAL, RIO PATIA, DOS RIE, C-65
77°34.9W	2°55.2N	5/12/73	16°22'24	91-069	COLOMBIA, ISLA AJI, C-80

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
77°20.8W	2°36.4N	5/12/73	16°22'30	91-070	COLUMBIA, EL BORDO, RIO PATIA, C-65
77°05.9W	2°16.4N	5/12/73	16°22'37	91-071	COLUMBIA, RIO PATIA, C-75
77°43.2W	3°07.0N	5/12/73	16°22'20	* 52-372	COLUMBIA, ISLA AJI, RIO ISCUANDE, C-70
77°49.1W	3°13.8N	5/12/73	16°22'18	91-068	COLUMBIA, ISLA AJI, C-65
77°28.3W	14°51.2N	30/ 1/74	17°00'19	A4-238	CARIBBEAN SEA, C-45
77°04.6W	14°22.2N	30/ 1/74	17°00'29	A4-239	CARIBBEAN SEA, C-30
77°52.4W	15°20.2N	30/ 1/74	17°00'09	A4-237	CARIBBEAN SEA, C-55
77°23.4W	23°44.5N	9/ 1/74	15°48'09	54-153	BAHAMAS, ANDROS I., GREAT BAHAMA BANK, UNDEREXPOSED
77°47.5W	25°35.5N	22/ 1/74	19°29'58	70-286	BAHAMAS, ANDROS I., NEW PROVIDENCE I., NASSAU, GREAT ABACC I., C-15
77°56.7W	25°47.6N	22/ 1/74	19°29'55	93-171	BAHAMAS, BERRY IS., GREAT BAHAMA BANK
77°49.1W	27°55.6N	8/ 1/74	16°32'14	64-107	ATLANTIC O. EAST OF FLA., C-2C
77°19.4W	28°22.5N	8/ 1/74	16°32'24	54-108	ATLANTIC O. EAST OF FLA., C-15
77°45.5W	29°58.4N	30/11/73	16°39'20	* 52-078	ATLANTIC O. OFF GA., C-60
77°42.5W	25°54.6N	18/ 1/74	20°45'21	70-177	ATLANTIC O. EAST OF FLA. C-35
77°12.2W	29°28.6N	18/ 1/74	20°45'31	70-178	ATLANTIC O. EAST OF FLA. C-3C
77°36.9W	29°48.6N	18/ 1/74	20°45'23	92-202	ATLANTIC O. OFF FLA. C-20
77°17.8W	29°32.7N	18/ 1/74	20°45'29	92-203	ATLANTIC O. OFF FLA. C-20
77°55.7W	30°05.2N	18/ 1/74	20°45'17	92-201	ATLANTIC O. OFF GA., C-3C
77°44.5W	32°02.3N	7/ 1/74	17°16'20	64-031	ATLANTIC O. EAST OF FLA., C-3C
77°27.0W	32°15.0N	7/ 1/74	17°16'25	89-206	ATLANTIC O. OFF GA. C-2C
77°27.4W	33°32.1N	24/ 1/74	18°02'02	70-382	N. C., CAPE LOOKOUT, C-60
77°34.3W	35°35.7N	6/ 1/74	18°00'20	58-360	N. C., C-100
77°06.6W	36°35.7N	20/ 1/74	19°17'30	70-224	N. C., VA., C-95
77°30.6W	36°51.1N	25/ 1/74	17°18'10	▲ 76-026	VA., N. C., C-100
77°49.4W	41°04.7N	4/ 1/74	19°27'50	58-316	PA., ALLEGHENY MTS., SUSQUEHANNA R., WILLIAMSPORT, C-10, S-100
77°09.6W	41°24.0N	4/ 1/74	19°28'00	58-317	PA., N.Y., ALLEGHENY MTS., SUSQUEHANNA R., SUNBURY, C-10, S-100
77°40.9W	41°07.2N	14/ 1/74	15°28'50	70-039	PA., C-90, S-100
77°06.9W	41°22.3N	14/ 1/74	15°29'00	70-040	N. Y., PA., C-90, S-100
77°36.9W	41°10.1N	4/ 1/74	19°27'52	91-324	PA., STATE COLLEGE, LOCK HAVEN, BALD EAGLE MTS., S-100, C-10
77°12.2W	41°21.6N	4/ 1/74	19°27'59	91-325	PA., WILLIAMSPORT, SUSQUEHANNA R., S-100
77°39.9W	41°06.6N	14/ 1/74	15°28'50	93-012	PA., C-94
77°19.1W	41°16.0N	14/ 1/74	15°28'56	93-013	PA., N.Y., C-93, S-100
77°23.1W	45°11.5N	12/ 1/74	16°56'10	64-310	ONTARIO, QUEBEC, CALABOGIE, RENFREW, OTTAWA R., S-100
76°19.1W	47°23.1S	1/ 1/74	13°15'20	58-103	PACIFIC O. OFF CHILE, C-65
76°22.4W	5°05.3S	1/ 2/74	17°15'14	48-173	PERU, RIO PASTAZA, RIO MARANON, RIO HUALLAGA, C-50
76°08.6W	5°23.4S	1/ 2/74	17°15'20	48-174	PERU, RIO MARANON, RIO HUALLAGA, C-6C
76°21.4W	5°04.6S	27/ 1/74	19°14'31	76-275	PERU, RIO MARANON, RIO HUALLAGA, C-5C
76°22.8W	5°05.6S	1/ 2/74	17°15'13	94-364	PERU, RIO MARANON, RIO PASTAZA, C-5C
76°07.6W	5°25.5S	1/ 2/74	17°15'20	94-365	PERU, RIO MARANON, RIO HUALLAGA, C-55
76°49.1W	4°25.6S	1/ 2/74	17°15'02	48-171	PERU, RIO MORONA, RIO MARANON, C-5C
76°35.6W	4°47.5S	1/ 2/74	17°15'08	48-172	PERU, RIO MORONA, RIO MARANON, RIO PASTAZA, C-50
76°50.4W	4°25.6S	1/ 2/74	17°15'01	94-362	PERU, RIO MARANON, RIO MORONA, C-45
76°36.9W	4°47.2S	1/ 2/74	17°15'07	94-363	PERU, RIO MARANON, RIO MORONA, RIO PASTAZA, C-45
76°08.6W	0°51.1N	28/ 1/74	18°30'01	A4-089	COLUMBIA ECUADOR, RIO PUTUMAYO, C-75
76°53.1W	1°50.6N	28/ 1/74	18°29'41	A4-087	COLUMBIA, RIO CUACO, RIO PATIA, C-5C
76°30.7W	1°20.6N	28/ 1/74	18°29'51	A4-088	COLUMBIA, ECUADOR, RIO PUTUMAYO, C-8C
76°36.3W	1°37.5N	5/12/73	16°22'50	* 52-375	COLUMBIA, RIO CAQUETA, CORDILLERA ORIENTAL, FLORENCIA, C-55
76°13.9W	1°08.2N	5/12/73	16°23'00	* 52-376	COLUMBIA, ECUADOR, RIO CAQUETA, RIO PUTUMAYO, C-35
76°51.8W	1°57.5N	5/12/73	16°22'43	91-072	COLUMBIA, RIO PATIA, BOLIVAR, C-7C
76°37.6W	1°38.7N	5/12/73	16°22'49	91-073	COLUMBIA, CORDILLERA CENTRAL, C-75
76°23.7W	1°20.4N	5/12/73	16°22'56	91-074	COLUMBIA, RIO CAQUETA, C-7C
76°10.9W	1°02.6N	5/12/73	16°23'02	91-075	COLUMBIA, RIO CAQUETA, C-50
76°58.7W	2°07.5N	5/12/73	16°22'40	* 52-374	COLUMBIA, RIO PATIA, CORDILLERA CENTRAL, BOLIVAR, C-60
76°40.6W	13°53.2N	30/ 1/74	17°00'39	A4-240	CARIBBEAN SEA, C-15
76°16.8W	13°24.2N	30/ 1/74	17°00'49	A4-241	CARIBBEAN SEA, C-10
76°41.2W	13°35.4N	2/12/73	16°53'12	* 52-203	CARIBBEAN SEA, C-30
76°18.1W	24°50.7N	9/ 1/74	15°48'34	64-154	BAHAMAS, CAT I., GREAT EXUMA I., UNDEREXPOSED
76°52.1W	24°44.6N	22/ 1/74	19°30'18	70-287	BAHAMAS, ANDROS I., NEW PROVIDENCE I., ELEUTHERA I., FOUL CAY, C-15
76°50.1W	28°46.9N	8/ 1/74	16°32'34	64-109	ATLANTIC O. EAST OF FLA., C-15
76°12.5W	28°35.6N	18/ 1/74	20°45'51	70-180	ATLANTIC O. EAST OF FLA. C-35
76°39.6W	28°58.5N	18/ 1/74	20°45'42	92-205	ATLANTIC O. OFF FLA. C-25
76°21.4W	28°42.5N	18/ 1/74	20°45'48	92-206	ATLANTIC O. OFF FLA. C-25
76°03.0W	28°26.4N	18/ 1/74	20°45'55	92-207	ATLANTIC O. OFF FLA. C-30
76°45.2W	29°06.0N	30/11/73	16°39'40	* 52-079	ATLANTIC O. OFF GA., C-90
76°20.1W	29°15.1N	8/ 1/74	16°32'44	64-110	ATLANTIC O. EAST OF FLA., C-20
76°42.2W	29°02.4N	18/ 1/74	20°45'41	70-179	ATLANTIC O. EAST OF FLA. C-3C
76°59.0W	29°16.1N	18/ 1/74	20°45'36	92-204	ATLANTIC O. OFF FLA. C-20
76°42.2W	32°51.3N	7/ 1/74	17°16'40	64-032	ATLANTIC O. EAST OF FLA., C-3C

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
76°22.8W	32°41.9N	24/ 1/74	18°02'22	70-384	ATLANTIC O. IN BERMUDA TRIANGLE, C-40
76°54.1W	33°07.8N	24/ 1/74	18°02'12	70-383	ATLANTIC O. IN BERMUDA TRIANGLE, C-50
76°13.9W	33°12.0N	7/ 1/74	17°16'48	89-207	ATLANTIC O. OFF GA. C-30
76°27.0W	36°24.9N	6/ 1/74	18°00'40	58-361	N.C., VA., C-100
76°54.7W	36°28.1N	25/ 1/74	17°18'20	▲ 76-027	VA., N. C., C-100
76°19.1W	36°04.9N	25/ 1/74	17°18'30	▲ 76-028	VA., N. C., C-100
76°41.4W	36°16.4N	20/ 1/74	19°17'37	92-251	N.C.-CAPE HATTERAS, PIMLICO SOUND, C-95
76°34.2W	36°16.6N	20/ 1/74	19°17'39	92-252	N.C.-CAPE HATTERAS, PIMLICO SOUND, C-95
76°28.0W	41°43.9N	4/ 1/74	19°28'09	58-318	PA., N.Y., BINGHAMTON, SCRANTON, WILKES-BARRE, C-15, S-100
76°17.8W	41°47.5N	14/ 1/74	15°29'10	70-041	N.Y., PA., C-90, S-100
76°46.5W	41°34.2N	4/ 1/74	19°28'05	91-326	PA., N.Y., WILLIAMSPORT, ELMIRA, SUSQUEHANNA R., S-100
76°20.4W	41°46.5N	4/ 1/74	19°28'11	91-327	PA., N.Y., ELMIRA, BINGHAMTON, SUSQUEHANNA R., S-100, C-15
76°55.1W	41°27.6N	14/ 1/74	15°29'02	93-014	N.Y., PA., C-92, S-100
76°22.8W	41°44.1N	14/ 1/74	15°29'09	93-015	N.Y., PA., C-100
76°32.3W	45°26.8N	12/ 1/74	16°56'20	64-311	ONTARIO, QUEBEC, OTTAWA, HULL, OTTAWA R., S-100
75°28.4W	47°10.3S	1/ 1/74	13°15'30	58-104	CHILE, GOLFO DE PENES, C-80
75°27.7W	6°17.0S	1/ 2/74	17°15'38	48-177	PERU, RIO HUALLAGA, RIO UCALYI, C-70
75°14.5W	6°34.6S	1/ 2/74	17°15'44	48-178	PERU, RIO UCALYI, RIO HUALLAGA, C-75
75°01.0W	6°52.2S	1/ 2/74	17°15'50	48-179	PERU, RIO UCALYI, RIO HUALLAGA, C-75
75°36.3W	6°04.3S	27/ 1/74	19°14'50	76-276	PERU, RIO UCALYI (AMAZON), RIO BLANCO, C-70
75°39.6W	6°02.6S	1/ 2/74	17°15'33	94-367	PERU, RIO UCALYI (AMAZON), RIO HUALLAGA, C-75
75°25.4W	6°21.4S	1/ 2/74	17°15'39	94-368	PERU, RIO UCALYI (AMAZON), RIO HUALLAGA, C-80
75°11.9W	6°35.2S	1/ 2/74	17°15'45	94-369	PERU, RIO UCALYI (AMAZON), C-80
75°55.1W	5°41.0S	1/ 2/74	17°15'26	48-175	PERU, RIO MARANON, RIO HUALLAGA, C-65
75°41.6W	5°58.2S	1/ 2/74	17°15'32	48-176	PERU, RIO HUALLAGA, RIO UCALYI, C-65
75°53.4W	5°44.2S	1/ 2/74	17°15'27	94-366	PERU, RIO HUALLAGA, C-70
75°24.1W	0°08.2S	28/ 1/74	18°30'21	A4-091	COLOMBIA, PERU, RIO PUTUMAYO, C-65
75°02.0W	0°38.1S	28/ 1/74	18°30'31	A4-092	COLOMBIA, PERU, RIO PUTUMAYO, C-65
75°07.3W	0°20.8S	5/12/73	16°23'30	* 52-379	COLOMBIA, ECUADOR, PERU, RIO PUTUMAYO, RIO CAQUETA, C-35
75°14.5W	0°12.4S	5/12/73	16°23'27	91-079	COLOMBIA, ECUADOR, PERU, RIO PUTUMAYO, C-40
75°00.0W	0°31.6S	5/12/73	16°23'33	91-080	COLOMBIA, PERU, ECUADOR, RIO PUTUMAYO, RIO NAPCO, C-65
75°46.5W	0°21.4N	28/ 1/74	18°30'11	A4-090	COLOMBIA, ECUADOR, PERU, RIO PUTUMAYO, C-80
75°51.8W	0°38.5N	5/12/73	16°23'10	* 52-377	COLOMBIA, ECUADOR, RIO CAQUETA, RIO PUTUMAYO, RIO CRISTEQUEZA,
75°29.7W	0°08.5N	5/12/73	16°23'20	* 52-378	COLOMBIA, ECUADOR, PERU, RIO CAQUETA, RIO PUTUMAYO, C-30
75°57.4W	0°45.0N	5/12/73	16°23'08	91-076	COLOMBIA, ECUADOR, RIO CAQUETA, RIO PUTUMAYO, C-35
75°42.9W	0°25.5N	5/12/73	16°23'14	91-077	COLOMBIA, ECUADOR, RIO CAQUETA, RIO PUTUMAYO, C-15
75°29.4W	0°07.4N	5/12/73	16°23'20	91-078	COLOMBIA, ECUADOR, PERU, RIO CAQUETA, RIO PUTUMAYO, C-20
75°06.3W	11°56.2N	30/ 1/74	17°01'19	A4-244	CARIBBEAN SEA
75°02.0W	11°55.2N	7/12/73	14°54'11	* 52-395	COLOMBIA, PUNTA FARO, MOUTH OF MAGDALENA, C-15
75°53.1W	12°54.5N	30/ 1/74	17°00'59	A4-242	CARIBBEAN SEA
75°29.7W	12°25.4N	30/ 1/74	17°01'09	A4-243	CARIBBEAN SEA
75°25.1W	12°28.6N	7/12/73	14°54'01	* 52-394	CARIBBEAN SEA, C-20
75°10.6W	12°08.5N	7/12/73	14°54'03	91-095	CARIBBEAN SEA, C-20
75°37.3W	18°21.6N	21/ 1/74	20°15'02	* 64-408	CARIBBEAN SEA, C-25
75°03.3W	22°54.1N	22/ 1/74	19°30'58	70-289	BAHAMAS, LONG I., CROOKED I., C-20
75°57.4W	23°49.6N	22/ 1/74	19°30'38	70-288	BAHAMAS, CAT I., LITTLE SALVADOR I., GREAT EXUMA I., LONG I.,
75°13.9W	27°42.6N	18/ 1/74	20°46'11	70-182	ATLANTIC O. EAST OF FLA. C-40
75°45.8W	28°12.6N	30/11,	16°40'00	* 52-080	ATLANTIC O. OFF FLA. C-55
75°42.9W	28°09.3N	18/ 1/74	20°46'01	70-181	ATLANTIC O. EAST OF FLA. C-40
75°44.2W	28°09.6N	18/ 1/74	20°46'01	92-208	ATLANTIC O. OFF FLA. C-35
75°50.5W	29°41.1N	8/ 1/74	16°32'54	64-111	ATLANTIC O. EAST OF FLA., C-30
75°19.5W	30°07.5N	8/ 1/74	16°33'04	64-112	ATLANTIC O. EAST OF FLA., C-50
75°19.2W	31°50.1N	24/ 1/74	18°02'42	70-386	ATLANTIC O. IN BERMUDA TRIANGLE, C-20
75°50.1W	32°16.8N	24/ 1/74	18°02'32	70-385	ATLANTIC O. IN BERMUDA TRIANGLE, C-30
75°36.3W	33°41.2N	7/ 1/74	17°17'00	64-033	ATLANTIC O. EAST OF GA., C-50
75°27.4W	33°46.6N	7/ 1/74	17°17'02	89-208	ATLANTIC O. OFF GA. C-50
75°57.7W	35°50.2N	20/ 1/74	19°17'50	70-225	N. C., CAPE HATTERAS, PIMLICO SOUND, PIMLICO R., C-70
75°44.2W	35°41.0N	25/ 1/74	17°18'40	▲ 76-029	VA., N. C., C-100
75°10.2W	35°16.3N	25/ 1/74	17°18'50	▲ 76-030	ATLANTIC O. OFF CAROLINAS, C-50
75°14.5W	37°11.5N	6/ 1/74	18°01'00	58-362	ATLANTIC O. OFF VA., C-100
75°54.1W	41°58.5N	4/ 1/74	19°28'17	91-328	PA., N.Y., BINGHAMTON, SAYRE, MONTROUSE, S-100, C-35
75°54.7W	41°54.7N	14/ 1/74	15°29'15	93-016	N.Y., PA., DELAWARE R., C-90, S-100
75°45.8W	42°03.5N	4/ 1/74	19°28'19	58-319	PA., N.Y., SCRANTON, WILKES-BARRE, BINGHAMTON, DELAWARE R., C-30, S-100
75°03.3W	42°23.0N	4/ 1/74	19°28'29	58-320	PA., N.Y., UTICA, HUDSON R., CATSKILL MTS., MOHAWK R.
75°38.9W	42°05.2N	14/ 1/74	15°29'20	70-042	N.Y., PA., SUSQUEHANNA R., C-70, S-100
75°27.1W	42°11.4N	4/ 1/74	19°28'24	91-329	PA., N.Y., BINGHAMTON, ONEONTA, NORWICH, DELAWARE R., C-100, S-35
75°00.7W	42°23.4N	4/ 1/74	19°28'30	91-330	PA., N.Y., ONEONTA, HAWK R., COOPERSTOWN, S-100, C-50
75°33.3W	42°07.0N	14/ 1/74	15°29'21	93-017	N.Y., PA., DELAWARE R., SUSQUEHANNA R., C-60, S-100

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
75°06.0W	42°15.2N	14/ 1/74	15°29'27	93-018	N.Y., CATSKILL MTS., ONEONTA, C-4C, S-10C
75°48.1W	45°43.3N	12/ 1/74	16°56'30	64-312	ONTARIO, QUEBEC, OTTAWA, HULL, OTTAWA R., S-100 S-15
75°00.0W	45°58.5N	12/ 1/74	16°56'40	64-313	ONTARIO, QUEBEC, OTTAWA R., MONTREAL, S-100, C-20
74°37.9W	46°57.2S	1/ 1/74	13°15'40	58-105	CHILE, ANDES, C-90
74°05.7W	8°02.1S	1/ 2/74	17°16'14	48-183	PERU, BRAZIL, RIO UCALYI, C-9C
74°05.3W	8°02.8S	27/ 1/74	19°15'30	76-278	PERU, BRAZIL, RIO UCAYALI (AMAZON), C-9C
74°00.7W	8°10.2S	1/ 2/74	17°16'16	94-374	PERU, BRAZIL, C-96
74°46.2W	7°11.8S	1/ 2/74	17°15'56	48-180	PERU, RIO UCALYI, C-8C
74°32.0W	7°29.5S	1/ 2/74	17°16'02	48-181	PERU, RIO UCALYI, C-85
74°18.8W	7°45.6S	1/ 2/74	17°16'08	48-182	PERU, BRAZIL, RIO UCALYI, C-88
74°50.8W	7°03.6S	27/ 1/74	19°15'10	76-277	PERU, RIO UCALYI, (AMAZON), C-7C
74°42.2W	7°17.5S	1/ 2/74	17°15'58	94-371	PERU, RIO UCALYI (AMAZON), C-85
74°28.1W	7°35.6S	1/ 2/74	17°16'04	94-372	PERU, RIO UCALYI (AMAZON), C-85
74°14.2W	7°52.5S	1/ 2/74	17°16'10	94-373	PERU, BRAZIL, RIO UCALYI (AMAZON), C-93
74°57.7W	6°57.5S	1/ 2/74	17°15'51	94-370	PERU, RIO UCALYI (AMAZON), C-85
74°39.6W	1°07.6S	28/ 1/74	18°30'41	A4-093	COLUMBIA, PERU, RIO PUTUMAYO, C-85
74°22.8W	1°20.3S	5/12/73	16°23'50	* 52-381	COLOMBIA, PERU, RIO CAQUETA, RIO PUTUMAYO, RIO NAPO, C-20
74°01.0W	1°48.6S	5/12/73	16°24'00	* 52-382	COLOMBIA, PERU, RIO NAPO, RIO PUTUMAYO, RIO CURARAY, C-15
74°32.0W	1°09.3S	5/12/73	16°23'46	91-082	PERU, RIO NAPO, RIO TAMBOR YACO, C-35
74°18.2W	1°27.4S	5/12/73	16°23'52	91-083	PERU, RIO NAPO, RIO TAMBOR, YACO, C-15
74°04.7W	1°45.2S	5/12/73	16°23'58	91-084	PERU, RIO NAPO, RIO CURARAY, RIO TAMBOR YACL, C-10
74°45.2W	0°50.7S	5/12/73	16°23'40	* 52-380	COLUMBIA, PERU, RIO CAQUETA, RIO PUTUMAYO, PUERTO LEGUIZAMO, C-40
74°46.2W	0°50.5S	5/12/73	16°23'40	91-081	COLOMBIA, PERU, RIO NAPO, C-65
74°19.8W	10°57.5N	30/ 1/74	17°01'39	A4-246	COLUMBIA, BARRANQUILLA, MAGDALENA R. SANTA MARTA VOL., C-15
74°13.2W	10°56.4N	7/12/73	14°54'32	91-099	COLUMBIA, SANTA MARTA, CIENAGA, FLNADACION, C-20
74°43.2W	11°27.0N	30/ 1/74	17°01'29	A4-245	COLUMBIA, BARRANQUILLA, MAGDALENA R.
74°38.9W	11°25.8N	7/12/73	14°54'21	* 52-396	COLOMBIA, BARRANQUILLA, RIO MAGDALENA CIENAGA, C-10
74°15.5W	11°00.2N	7/12/73	14°54'31	* 52-397	COLOMBIA, BARRANQUILLA, RIO MAGDALENA SIERRA DE SANTA MARTA, C-15
74°56.1W	11°50.3N	7/12/73	14°54'14	91-096	CARIBBEAN SEA, C-15
74°41.9W	11°32.5N	7/12/73	14°54'20	91-097	COLUMBIA, BARRANQUILLA, MOUTH OF MAGDALENA, C-10
74°27.7W	11°14.5N	7/12/73	14°54'26	91-098	COLUMBIA, BARRANQUILLA, CIENAGA, CIENAGA GRANDE, C-15
74°10.6W	21°58.0N	22/ 1/74	19°31'18	70-290	BAHAMAS, CROOKED I., ACKLINS I., NORTHWEST CAY, C-15
74°15.5W	26°48.9N	18/ 1/74	20°46'31	70-184	ATLANTIC O. EAST OF FLA. C-45
74°47.8W	27°19.5N	30/11/73	16°40'20	* 52-081	ATLANTIC O. OFF FLA. C-90
74°44.9W	27°15.8N	18/ 1/74	20°46'21	70-183	ATLANTIC O. EAST OF FLA. C-45
74°49.2W	30°33.3N	8/ 1/74	16°33'14	64-113	ATLANTIC O. EAST OF FLA., C-8C
74°18.2W	30°56.5N	8/ 1/74	16°33'24	64-114	ATLANTIC O. EAST OF GA., C-55
74°15.2W	30°59.1N	24/ 1/74	18°03'02	70-388	ATLANTIC O. IN BERMUDA TRIANGLE, C-20
74°46.5W	31°24.6N	24/ 1/74	18°02'52	70-387	ATLANTIC O. IN BERMUDA TRIANGLE, C-2C
74°29.7W	34°30.0N	7/ 1/74	17°17'20	64-034	ATLANTIC O. EAST OF GA., C-6C
74°36.0W	34°52.2N	25/ 1/74	17°19'00	▲ 76-031	ATLANTIC O. OFF CAROLINAS, C-50
74°02.0W	34°28.2N	25/ 1/74	17°19'10	▲ 76-032	ATLANTIC O. OFF CAROLINAS, C-55
74°41.2W	34°20.8N	7/ 1/74	17°17'17	89-209	ATLANTIC O. OFF GA. C-6C
74°48.2W	35°02.3N	20/ 1/74	19°18'10	70-226	N. C., CAPE HATTERAS, C-35
74°01.4W	37°57.0N	6/ 1/74	18°01'20	58-363	ATLANTIC O. OFF VA., C-100
74°14.9W	37°47.6N	6/ 1/74	18°01'16	91-364	ATLANTIC O., OFF MID-ATLANTIC STATES, C-100
74°56.4W	42°24.4N	14/ 1/74	15°29'30	70-043	N. Y., PA., CATSKILL MTS., DELAWARE R., C-6C, S-100
74°13.6W	42°43.6N	14/ 1/74	15°29'40	70-044	N. Y., MASS., VT., MOHAWK R., HUDSON R., CATSKILL MTS., C-55, S-100
74°34.0W	42°35.3N	4/ 1/74	19°28'36	91-331	N. Y., MOHAWK R., SCHENECTADY, AMSTERDAM, S-100, C-50
74°39.6W	42°31.2N	14/ 1/74	15°29'34	93-019	N.Y., CATSKILL MTS., MOHAWK R., COOPERSTOWN, C-50, S-100
74°11.9W	42°43.4N	14/ 1/74	15°29'40	93-020	N.Y., ALBANY, SCHENECTADY, MOHAWK R., AMSTERDAM, C-40, S-60
74°10.6W	46°13.5N	12/ 1/74	16°56'50	64-314	ONTARIO, QUEBEC, ST. LAWRENCE R., MONTREAL, S-100, C-25
73°48.2W	46°43.6S	1/ 1/74	13°15'50	58-106	CHILE, LAGO BUENOS AIRES, ANDES, C-85
73°11.3W	5°14.5S	1/ 2/74	17°16'38	48-187	PERU, BRAZIL, RIO ALTO YURUA, C-56
73°19.8W	9°01.5S	27/ 1/74	19°15'50	76-279	PERU, BRAZIL, RIO JURNA, C-80
73°19.2W	9°05.6S	1/ 2/74	17°16'35	94-377	PERU, BRAZIL, C-97
73°05.0W	9°23.8S	1/ 2/74	17°16'41	94-378	PERU, BRAZIL, RIO ALTO YURUA, C-55
73°52.5W	8°20.7S	1/ 2/74	17°16'20	48-184	PERU, BRAZIL, RIO UCALYI, C-55
73°39.0W	8°38.5S	1/ 2/74	17°16'26	48-185	PERU, BRAZIL, RIO UCALYI, C-57
73°25.4W	8°56.3S	1/ 2/74	17°16'32	48-186	PERU, BRAZIL, RIO UCALYI, C-57
73°46.9W	8°29.8S	1/ 2/74	17°16'22	94-375	PERU, BRAZIL, C-97
73°32.7W	8°46.1S	1/ 2/74	17°16'29	94-376	PERU, BRAZIL, C-97
73°10.3W	3°06.8S	28/ 1/74	18°31'21	A4-094	COLUMBIA, PERU, RIO AMAZON, C-75
73°38.6W	2°17.4S	5/12/73	16°24'10	* 52-383	COLUMBIA, PERU, RIO NAPO, RIO PUTUMAYO, RIO CURARAY, C-15
73°16.5W	2°46.5S	5/12/73	16°24'20	* 52-384	PERU, COLOMBIA, IQUITOS, RIO MARANON, RIO NAPO
73°50.8W	2°02.7S	5/12/73	16°24'05	91-085	PERU, RIO NAPO, RIO CURARAY, RIO TAMBOR YACL, C-15
73°37.0W	2°20.8S	5/12/73	16°24'11	91-086	PERU, COLOMBIA, RIO NAPO, RIO PUTUMAYO, C-2C
73°23.5W	2°38.8S	5/12/73	16°24'17	91-087	PERU, COLOMBIA, RIO NAPO, RIO PUTUMAYO, C-3C
73°33.4W	9°58.5N	30/ 1/74	17°01'59	A4-248	COLUMBIA, VENEZUELA, RIO CESAR, SERRANIA PERIJA, C-20

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
73°10.6W	9°29.6N	30/1/74	17°02'09	A4-249	COLOMBIA, VENEZUELA, SERRANIA PERIJA, CIENAGA DE ZAPATCZA, C-50
73°07.6W	9°33.6N	7/12/73	14°55'01	* 52-400	VENEZUELA, COLOMBIA, RIO CESAR, RIO CATATUMBO, C-50
73°16.2W	9°43.7N	7/12/73	14°54'57	91-103	COLOMBIA, VENEZUELA, SERRANIA DE PERIJA, CHIRIGUANA, C-25
73°01.1W	9°24.2N	7/12/73	14°55'03	91-104	COLOMBIA, VENEZUELA, SERRANIA DE PERIJA, C-60
73°23.5W	9°44.6N	30/1/74	17°02'03	94-194	COLOMBIA, VENEZUELA, SIERRA DE MERIDA, RIO CESAR, C-30
73°56.8W	10°28.4N	30/1/74	17°01'49	A4-247	COLOMBIA, SANTA MARTA VOLCANO, RIO CESAR, C-15
73°52.5W	10°30.8N	7/12/73	14°54'41	* 52-398	COLOMBIA, PICO DE CICOLON, RIO MAGDALENA, FUNDACION, C-15
73°29.4W	10°01.7N	7/12/73	14°54'51	* 52-399	COLOMBIA, VENEZUELA, RIO CESAR, SIERRA DE PERIJA, C-20
73°59.1W	10°38.1N	7/12/73	14°54'38	91-100	COLOMBIA, SIERRA NEVADA DE SANTA MARTA, CIENAGA, FUNDACION, C-20
73°44.2W	10°19.3N	7/12/73	14°54'45	91-101	COLOMBIA, PICO CO. COLON, FUNDACION, RIO ARIGUANI, C-15
73°30.4W	10°01.2N	7/12/73	14°54'51	91-102	COLOMBIA, RIO AGRIGUANI, RIO CESAR, C-1C
73°54.4W	10°24.2N	30/1/74	17°01'50	94-193	COLOMBIA, SIERRA NEVADA DE SANTA MARTA, C-3C
73°09.6W	15°28.4N	21/1/74	20°16'02	* 64-409	CARIBBEAN SEA, C-50
73°18.2W	21°01.8N	22/1/74	19°31'38	70-291	BAHAMAS, GREAT INAGUA I., LITTLE INAGUA I., C-15
73°19.2W	25°54.7N	18/1/74	20°46'51	70-186	ATLANTIC O. EAST OF FLA. C-45
73°50.8W	26°23.8N	30/11/73	16°40'40	* 52-082	ATLANTIC O. OFF FLA. C-60
73°47.5W	26°21.5N	18/1/74	20°46'41	70-185	ATLANTIC O. EAST OF FLA. C-45
73°44.2W	30°33.2N	24/1/74	18°03'12	70-389	ATLANTIC O. IN BERMUDA TRIANGLE, C-2C
73°13.6W	30°07.2N	24/1/74	18°03'22	70-390	ATLANTIC O. IN BERMUDA TRIANGLE, C-2C
73°47.2W	31°24.4N	8/1/74	16°33'34	64-115	ATLANTIC O. EAST OF GA., C-9C
73°39.6W	34°13.5N	20/1/74	19°18'31	70-227	ATLANTIC O., BERMUDA TRIANGLE, C-35
73°27.7W	34°03.3N	25/1/74	17°19'20	▲ 76-033	ATLANTIC O. OFF CAROLINAS, C-80
73°49.8W	34°57.2N	7/1/74	17°17'31	89-210	ATLANTIC O. OFF CAROLINAS, C-50
73°21.2W	35°18.4N	7/1/74	17°17'40	64-035	ATLANTIC O. EAST OF GA., C-80
73°01.1W	35°31.3N	7/1/74	17°17'45	89-211	ATLANTIC O. OFF CAROLINAS, C-53
73°26.4W	38°16.5N	6/1/74	18°01'29	91-365	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
73°45.2W	42°54.5N	14/1/74	15°29'46	93-021	N.Y., VT., MASS., ALBANY, SCHENECTADY, HUDSON R., MOHAWK R., C-10, S-60
73°30.4W	43°02.2N	14/1/74	15°29'50	70-045	N. Y., VT., MASS., N. H., HUDSON R., LAKE GEORGE, SACANDAGA RES.
73°31.4W	43°02.5N	4/1/74	19°28'50	91-332	N. Y., VT., ALBANY, SCHENECTADY, HUDSON R., S-100, C-75
73°14.9W	43°05.6N	4/1/74	19°28'54	91-333	N. Y., VT., N. H., MASS., CONNECTICUT R., BENNINGTON, C-85
73°03.0W	43°14.5N	4/1/74	19°28'57	91-334	N. Y., VT., N. H., MASS., CONNECTICUT R., C-90
73°18.2W	43°06.5N	14/1/74	15°29'52	93-022	N.H., VT., MASS., N.Y., TROY, HUDSON R., BENNINGTON, GREEN MTS., C-30
73°21.8W	46°27.8N	12/1/74	16°57'00	64-315	QUEBEC, MONTREAL, TROIS RIVIERES, ST. LAWRENCE R., S-100, C-30
72°58.4W	46°25.7S	1/1/74	13°16'00	58-107	CHILE, ARGENTINA, LAGO BUENOS AIRES, C-8C
72°09.6W	46°15.4S	1/1/74	13°16'10	58-108	CHILE, ARGENTINA, LAGO BUENOS AIRES, ANDES, C-50
72°30.4W	10°07.2S	1/2/74	17°16'56	48-190	PERU, BRAZIL, RIO ALTO YURUA, C-5E
72°33.7W	10°00.5S	27/1/74	19°16'10	76-280	PERU, BRAZIL, RIO ALTA YURUA, C-8C
72°35.7W	10°01.3S	1/2/74	17°16'53	94-380	PERU, BRAZIL, RIO ALTO YURUA, C-57
72°57.8W	9°32.1S	1/2/74	17°16'44	48-188	PERU, BRAZIL, RIO ALTO YURUA, C-57
72°43.9W	9°45.6S	1/2/74	17°16'50	48-189	PERU, BRAZIL, RIO ALTO YURUA, C-5E
72°49.5W	9°43.6S	1/2/74	17°16'47	94-379	PERU, BRAZIL, RIO ALTO YURUA, C-54
72°25.1W	4°06.5S	28/1/74	18°31'41	A4-096	PERU, BRAZIL, RIO AMAZON, C-80
72°03.4W	4°34.6S	28/1/74	18°31'51	A4-097	BRAZIL, RIO ITACUAI, C-80
72°47.5W	3°36.5S	28/1/74	18°31'31	A4-095	PERU, RIO AMAZON, C-8C
72°47.9W	8°55.4N	30/1/74	17°02'19	A4-250	COLOMBIA, VENEZUELA, SERRANIA PERIJA, C-8C
72°24.5W	8°30.4N	30/1/74	17°02'29	A4-251	COLOMBIA, VENEZUELA, C-95
72°18.5W	8°34.6N	7/12/73	14°55'21	* 52-402	VENEZUELA, COLOMBIA, RIO MARATUTO, CORDILLERA DE MERIDA, C-50
72°32.0W	8°47.2N	7/12/73	14°55'16	91-106	COLOMBIA, VENEZUELA, RIO CATATUMBO, RIO ZALIA, C-80
72°16.6W	8°31.3N	7/12/73	14°55'22	91-107	COLOMBIA, VENEZUELA, RIO ZALIA, C-8C
72°03.4W	8°13.5N	7/12/73	14°55'28	91-108	COLOMBIA, VENEZUELA, CUCUTA, SAN CRISTOBAL, C-70
72°22.8W	8°27.1N	30/1/74	17°02'30	94-196	VENEZUELA, C-100
72°43.6W	9°02.5N	7/12/73	14°55'11	* 52-401	COLOMBIA, VENEZUELA, RIO CATATUMBO, RIO MARATUTO, C-70
72°46.9W	9°06.1N	7/12/73	14°55'10	91-105	COLOMBIA, VENEZUELA, RIO CATATUMBO, C-80
72°53.5W	9°05.6N	30/1/74	17°02'16	94-195	VENEZUELA, COLOMBIA, RIO CATATUMBO, C-75
72°36.7W	14°52.5N	31/1/74	16°17'50	A4-374	CARIBBEAN SEA, C-30
72°12.6W	14°23.5N	31/1/74	16°18'00	A4-375	CARIBBEAN SEA, C-30
72°01.7W	15°37.5N	22/1/74	19°32'08	70-293	HAITI, DOMINICAN REPUBLIC, MONTE CRISTO, CORDILLERA CENTRAL, C-20
72°14.9W	19°51.2N	22/1/74	19°32'03	93-172	HAITI, DOMINICAN REP., MONTICRISTI, ILE TORTUE, C-15
72°27.4W	20°06.4N	22/1/74	19°31'58	70-292	HAITI, TORTUGA I., GONAIVES, PORT DE PAIX, C-15
72°51.2W	25°27.3N	18/1/74	20°47'01	70-187	ATLANTIC O. EAST OF FLA. C-4C
72°23.5W	25°00.6N	18/1/74	20°47'11	70-188	ATLANTIC O. NORTH OF WEST INDIES, C-35
72°43.3W	29°41.1N	24/1/74	18°03'32	70-391	ATLANTIC O. IN BERMUDA TRIANGLE, C-2C
72°12.9W	29°14.9N	24/1/74	18°03'42	70-392	ATLANTIC O. IN BERMUDA TRIANGLE, C-2C
72°44.2W	32°15.6N	8/1/74	16°33'54	64-116	ATLANTIC O. EAST OF CAROLINAS, C-7C
72°33.0W	33°24.2N	20/1/74	19°18'51	70-228	ATLANTIC O., BERMUDA TRIANGLE, C-3C
72°54.8W	33°38.7N	25/1/74	17°19'30	▲ 76-034	ATLANTIC O. OFF CAROLINAS, C-60

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
72°21.8W	33°14.4N	25/ 1/74	17°19'40	▲ 76-035	ATLANTIC O. OFF CAROLINAS, C-30
72°11.0W	36°06.1N	7/ 1/74	17°18'00	64-036	ATLANTIC O. EAST OF THE CAROLINAS, C-55
72°10.6W	36°05.4N	7/ 1/74	17°18'00	89-212	ATLANTIC O. OFF CAROLINAS, C-58
72°41.8W	38°35.2N	6/ 1/74	18°01'40	58-364	ATLANTIC O., C-100
72°37.7W	38°45.4N	6/ 1/74	18°01'42	91-366	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
72°46.9W	43°20.6N	14/ 1/74	15°30'00	70-046	N. Y., VT., MASS., N. H., CONN. R., LAKE CHAMPLAIN, LAKE GEORGE
72°02.4W	43°38.8N	14/ 1/74	15°30'10	70-047	ME., N. H., VT., CONN. R., WHITE MTS., HANOVER, C-60, S-100
72°51.5W	43°17.3N	14/ 1/74	15°29'58	93-023	N. H., VT., CONN. R., BELLOW FALLS, S-6C, C-4C
72°23.8W	43°29.2N	14/ 1/74	15°30'05	93-024	N. H., VT., WHITE R. JUNCTION, HANOVER, CONNECTICUT R., C-50, S-60
72°30.7W	46°42.3N	12/ 1/74	16°57'10	64-316	QUEBEC, ST. LAWRENCE R., TROIS RIVIERES, SHAWINIGAN, S-100, C-20
71°20.9W	46°00.6S	1/ 1/74	13°16'20	58-109	ARGENTINA, CHILE, LAGO BUENOS AIRES, RIO MAYO, C-25
71°00.8W	12°04.5S	1/ 2/74	17°17'34	94-383	PERU, RIO CAMISEA, C-50
71°00.4W	11°59.1S	27/ 1/74	19°16'51	76-282	PERU, BRAZIL, RIO ALTA PURUS, C-85
71°29.1W	11°26.5S	1/ 2/74	17°17'22	94-381	PERU, C-99
71°14.6W	11°46.1S	1/ 2/74	17°17'28	94-382	PERU, C-95
71°47.6W	10°55.5S	27/ 1/74	19°16'30	76-281	PERU, BRAZIL, RIO ALTA YURUA, C-8C
71°40.0W	5°05.5S	28/ 1/74	18°32'01	A4-098	BRAZIL, RIO JURUA, C-85
71°17.6W	5°24.4S	28/ 1/74	18°32'11	A4-099	BRAZIL, RIO JURUA, C-85
71°07.0W	6°56.1N	7/12/73	14°55'54	91-112	VENEZUELA, COLOMBIA, RIO ARAUCA, C-65
71°39.0W	7°30.7N	30/ 1/74	17°02'49	A4-252	COLOMBIA, VENEZUELA, RIO PORADAS, RIO ARAUCA, C-30
71°35.4W	7°34.2N	7/12/73	14°55'41	* 52-404	COLOMBIA, VENEZUELA, CORDILLERA DE MERIDA, SAN CRISTOBAL, C-55
71°12.6W	7°04.3N	7/12/73	14°55'51	* 52-405	VENEZUELA, COLOMBIA, RIO ARAUCA, EL SOCORRO, C-40
71°49.9W	7°53.0N	7/12/73	14°55'35	91-109	COLOMBIA, VENEZUELA, SAN CRISTOBAL, C-60
71°35.4W	7°33.3N	7/12/73	14°55'41	91-110	VENEZUELA, RIO DORNADAS, C-5C
71°21.2W	7°16.4N	7/12/73	14°55'47	91-111	VENEZUELA, COLOMBIA, RIO DORNADAS, RIO ARAUCA, C-60
71°51.5W	7°47.5N	30/ 1/74	17°02'43	94-197	VENEZUELA, COLOMBIA, RIO DORNADAS, C-40
71°21.5W	7°06.6N	30/ 1/74	17°02'57	94-198	VENEZUELA, COLOMBIA, RIO ARAUCA, ARAUCA, C-20
71°58.1W	8°05.6N	7/12/73	14°55'31	* 52-403	COLOMBIA, VENEZUELA, CORDILLERA DE MERIDA, CUCUTA, C-50
71°01.7W	12°56.0N	31/ 1/74	16°18'30	A4-378	COLOMBIA, PEN. DE GUARAJIRA, C-15
71°00.4W	12°47.5N	3/12/73	16°11'01	* 52-260	VENEZUELA, COLOMBIA, PEN DE GUARAJIRA, ARLBA, C-15
71°06.0W	12°56.7N	21/ 1/74	20°16'54	92-316	CARIBBEAN SEA OFF VENEZUELA, C-75
71°48.9W	13°54.3N	31/ 1/74	16°18'10	A4-376	CARIBBEAN SEA, C-20
71°25.1W	13°25.3N	31/ 1/74	16°18'20	A4-377	CARIBBEAN SEA, C-15
71°38.7W	13°37.6N	21/ 1/74	20°16'40	* 64-410	COLOMBIA, PEN. DE GUARAJIRA, C-5C
71°14.9W	13°08.7N	21/ 1/74	20°16'50	* 64-411	COLOMBIA, PEN. DE GUARAJIRA, C-5C
71°20.9W	13°15.1N	21/ 1/74	20°16'48	92-315	CARIBBEAN SEA OFF VENEZUELA, C-6C
71°11.3W	18°40.4N	22/ 1/74	19°32'28	70-295	HAITI, DOMINICAN REPUBLIC, BARAHONA, AZUA, LAGO ENRIQUILLO, C-30
71°27.5W	18°56.1N	22/ 1/74	19°32'21	93-175	DOMINICAN REPUBLIC, HAITI, LAGO ENRIQUILLO, LAC DE RELIGNE, C-50
71°11.3W	18°39.6N	22/ 1/74	19°32'28	93-176	DOMINICAN REPUBLIC, BARAHONA, LAGUNA RINCON, LAGO ENRIQUILLO, C-40
71°36.4W	19°08.5N	22/ 1/74	19°32'18	70-294	HAITI, DOMINICAN REPUBLIC, LAGO ENRIQUILLO, LAC DE PELIGRE, C-25
71°59.1W	19°33.7N	22/ 1/74	19°32'09	93-173	HAITI, DOMINICAN REPUBLIC, PEPILLO SALGADO, MONTE CRISTI, C-30
71°43.9W	19°16.2N	22/ 1/74	19°32'15	93-174	DOMINICAN REPUBLIC, HAITI, PEPILLO SALGADO, CORD. CENTRAL, C-50
71°01.4W	23°37.2N	18/ 1/74	20°47'41	70-191	ATLANTIC O. NORTH OF WEST INDIES, C-20
71°55.8W	24°32.4N	18/ 1/74	20°47'21	70-189	ATLANTIC O. NORTH OF WEST INDIES, C-35
71°28.8W	24°04.5N	18/ 1/74	20°47'31	70-190	ATLANTIC O. NORTH OF WEST INDIES, C-30
71°43.3W	28°48.5N	24/ 1/74	18°03'52	70-393	ATLANTIC O. IN BERMUDA TRIANGLE, C-25
71°13.6W	28°22.0N	24/ 1/74	18°04'02	70-394	ATLANTIC O. IN BERMUDA TRIANGLE, C-25
71°27.5W	32°33.6N	20/ 1/74	19°19'11	70-229	ATLANTIC O., BERMUDA TRIANGLE, C-6C
71°49.2W	32°45.1N	25/ 1/74	17°19'50	▲ 76-036	ATLANTIC O., BERMUDA TRIANGLE, C-30
71°16.9W	32°23.5N	25/ 1/74	17°20'00	▲ 76-037	ATLANTIC O., BERMUDA TRIANGLE, C-35
71°39.3W	33°05.3N	8/ 1/74	16°34'14	64-117	ATLANTIC O. EAST OF CAROLINAS, C-5C
71°00.1W	36°52.7N	7/ 1/74	17°18'20	64-037	ATLANTIC O. EAST OF THE CAROLINAS, C-100
71°19.5W	36°39.0N	7/ 1/74	17°18'14	89-213	ATLANTIC O. OFF CAROLINAS, C-10C
71°22.2W	39°21.4N	6/ 1/74	18°02'00	58-365	ATLANTIC O., C-100
71°47.9W	39°13.5N	6/ 1/74	18°01'55	91-367	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
71°52.5W	43°51.4N	14/ 1/74	15°30'20	70-048	ME., N. H., VT., PORTLAND, LAKE WINNIPESaukee, WHITE MTS., CONN. R.
71°56.1W	43°46.4N	14/ 1/74	15°30'11	93-025	ME., N. H., VT., CONNECTICUT R., WHITE MTS., S-60, C-80
71°27.0W	43°51.0N	14/ 1/74	15°30'17	93-026	ME., N. H., MT. WASHINGTON, OLD MAN OF THE MTS, LAKE WINNIPESaukee, C-40
71°03.1W	44°08.5N	14/ 1/74	15°30'30	70-049	ME., N. H., PORTLAND, LAKE SEBAGO, WHITE MTS., CUNWAY, C-35, S-100
71°42.6W	46°55.5N	12/ 1/74	16°57'20	64-317	ME., QUEBEC, QUEBEC CITY, ST. LAWRENCE R., ILE D'ORLEANS, S-100, C-20
70°32.7W	45°45.6S	1/ 1/74	13°16'30	58-110	ARGENTINA, RIO SENGUERR, RIO MAYO, PERITO MORENO, C-15
70°29.4W	18°18.5S	26/ 1/74	20°01'29	▲ 76-125	PERU, CHILE, CLETA DEL SAMA, CABO LOBOS, C-70
70°04.4W	18°47.4S	26/ 1/74	20°01'39	▲ 76-126	PERU, CHILE, CABO LOBOS, PUNTA PICHACO, C-7C
70°12.3W	13°02.0S	1/ 2/74	17°17'52	4B-193	PERU, RIO CAMISEA, C-50

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
70°12.3W	13°02.0S	1/ 2/74	17°17'52	94-386	PERU, RIO CAMISEA, C-80
70°45.3W	12°24.6S	1/ 2/74	17°17'40	48-191	PERU, RIO CAMISEA, C-60
70°28.8W	12°43.7S	1/ 2/74	17°17'46	48-192	PERU, RIO CAMISEA, C-60
70°13.3W	12°57.6S	27/ 1/74	19°17'10	76-283	PERU, RIO MADRE DE DIOS, RIO ALTO MADRE DE DIOS, C-85
70°45.3W	12°24.6S	1/ 2/74	17°17'40	94-384	PERU, RIO CAMISEA, C-80
70°28.8W	12°43.7S	1/ 2/74	17°17'46	94-385	PERU, RIO CAMISEA, C-80
70°09.7W	7°02.5S	28/ 1/74	18°32'41	A4-102	BRAZIL, RIO PURAS, C-95
70°54.8W	6°03.6S	28/ 1/74	18°32'21	A4-100	BRAZIL, RIO JURUA, C-85 S-90
70°32.4W	6°33.1S	28/ 1/74	18°32'31	A4-101	BRAZIL, RIO PURAS, C-90
70°08.7W	5°32.4N	30/ 1/74	17°03'29	A4-254	COLUMBIA, RIO META, RIO CRAVO NORTE, C-25
70°05.5W	5°35.2N	7/12/73	14°56'21	* 49-408	COLOMBIA, RIO META C-30
70°10.7W	5°42.3N	7/12/73	14°56'19	91-116	COLOMBIA, RIO META, C-30
70°21.9W	5°48.5N	30/ 1/74	17°03'23	94-200	COLOMBIA, RIO META, RIO CRAVO NORTE, C-15
70°53.8W	6°31.5N	30/ 1/74	17°03'09	A4-253	COLOMBIA, VENEZUELA, RIO CASANARE, EL SOCORRO, C-15
70°49.9W	6°35.2N	7/12/73	14°56'01	* 52-406	COLOMBIA, VENEZUELA, EL SOCORRO, RIO CASANARE, C-40
70°27.5W	6°05.3N	7/12/73	14°56'11	* 52-407	COLUMBIA, VENEZUELA, RIO META, C-40
70°52.8W	6°38.0N	7/12/73	14°56'00	91-113	VENEZUELA, COLOMBIA, ARAUCA, RIO ARAUCA, C-70
70°38.3W	6°18.7N	7/12/73	14°56'06	91-114	COLUMBIA, RIO CRAVONORTE, C-70
70°24.2W	6°00.1N	7/12/73	14°56'13	91-115	COLUMBIA, RIO META, C-55
70°51.2W	6°27.1N	30/ 1/74	17°03'10	94-199	COLUMBIA, RIO CRAVO NORTE, C-20
70°14.9W	11°57.5N	31/ 1/74	16°18'50	A4-380	COLOMBIA, VENEZUELA, ARUBA, PEN. DE GUAJIRA, PEN. DE PARAGUANA
70°13.6W	11°45.6N	3/12/73	16°11'21	* 52-262	VENEZUELA, ARUBA, PEN. DE PARAGUANA, CORO, GOLFE DE CORO, C-25
70°03.7W	11°40.5N	21/ 1/74	20°17'20	* 64-414	VENEZUELA, PEN. DE PARAGUARIA, CORO, GOLFE DE CORO, C-35
70°13.3W	11°48.4N	3/12/73	16°11'21	90-239	VENEZUELA, PEN. DE PARAGUANA, GOLFE DE CORO C-15
70°07.0W	11°43.2N	21/ 1/74	20°17'19	92-320	VENEZUELA, PARAGUANA PEN., GULF OF VENEZUELA, C-30
70°38.3W	12°26.6N	31/ 1/74	16°18'40	A4-379	COLUMBIA, VENEZUELA, ARUBA, PEN. DE GUAJIRA, PEN. DE PARAGUANA
70°37.0W	12°18.8N	3/12/73	16°11'11	* 52-261	VENEZUELA, COLOMBIA, ARUBA, PEN. DE GUAJIRA, PEN. DE PARAGUANA, C-20
70°51.2W	12°35.4N	21/ 1/74	20°17'00	* 64-412	VENEZUELA, COLOMBIA, PEN. DE GUAJIRA, PEN. DE PARAGUARIA, C-40
70°27.8W	12°10.2N	21/ 1/74	20°17'10	* 64-413	VENEZUELA, ARUBA, PEN. DE PARAGUARIA, GULF OF VENEZUELA, C-35
70°45.3W	12°27.8N	3/12/73	16°11'08	90-238	COLUMBIA, PEN. DE GUATIRA C-15
70°51.2W	12°38.4N	21/ 1/74	20°17'00	92-317	CARIBBEAN SEA OFF VENEZUELA, C-70
70°36.7W	12°20.2N	21/ 1/74	20°17'06	92-318	VENEZUELA, PARAGUANA PEN., CARIBBEAN SEA, C-50
70°22.2W	12°02.1N	21/ 1/74	20°17'12	92-319	VENEZUELA, PARAGUANA PEN., GULF OF VENEZUELA, C-30
70°20.5W	17°42.3N	22/ 1/74	19°32'48	70-297	DOMINICAN REPUBLIC, PUNTA SOLINA, C-15
70°24.2W	17°45.2N	22/ 1/74	19°32'47	93-179	DOMINICAN REPUBLIC, BANI, C-10
70°09.3W	17°27.5N	22/ 1/74	19°32'53	93-180	CARIBBEAN SEA, C-15
70°46.3W	18°11.9N	22/ 1/74	19°32'33	70-296	DOMINICAN REPUBLIC, BARAHONA, AZUA, LAGUNA RINCON, C-30
70°55.8W	18°22.0N	22/ 1/74	19°32'34	93-177	DOMINICAN REPUBLIC, BARAHONA, AZUA, PUNTA SALINA, C-15
70°40.0W	18°03.7N	22/ 1/74	19°32'40	93-178	DOMINICAN REPUBLIC, BARAHONA, PUNTA SALINA, BANI, C-10
70°08.0W	22°41.5N	18/ 1/74	20°48'01	70-193	ATLANTIC O. NORTH OF WEST INDIES, C-20
70°34.7W	23°09.5N	18/ 1/74	20°47'51	70-192	ATLANTIC O. NORTH OF WEST INDIES, C-25
70°44.3W	27°55.5N	24/ 1/74	18°04'12	70-395	ATLANTIC O. IN BERMUDA TRIANGLE, C-20
70°15.3W	27°28.6N	24/ 1/74	18°04'22	70-396	ATLANTIC O. NORTH OF WEST INDIES, C-10
70°23.2W	31°43.1N	20/ 1/74	19°19'31	70-230	ATLANTIC O., BERMUDA TRIANGLE, C-20
70°44.9W	31°58.7N	25/ 1/74	17°20'10	▲ 76-038	ATLANTIC O., BERMUDA TRIANGLE, C-40
70°13.3W	31°33.3N	25/ 1/74	17°20'20	▲ 76-039	ATLANTIC O., BERMUDA TRIANGLE, C-30
70°33.4W	33°54.7N	8/ 1/74	16°34'34	64-118	ATLANTIC O. EAST OF CAROLINAS, C-40
70°19.6W	34°03.8N	8/ 1/74	16°34'37	89-322	ATLANTIC O. OFF CAROLINAS, C-40
70°27.1W	37°12.5N	7/ 1/74	17°18'29	89-214	ATLANTIC O. OFF CAROLINAS, C-100
70°57.1W	39°41.5N	6/ 1/74	18°02'08	91-368	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
70°02.6W	40°03.6N	6/ 1/74	18°02'20	58-366	ATLANTIC O., C-100
70°02.7W	44°25.6N	14/ 1/74	15°30'40	70-050	ME., BATH, WATERVILLE, KENNEBEC R., RUMFORD, C-20, S-100
70°58.0W	44°02.0N	14/ 1/74	15°30'24	93-027	ME., N.H., SEBAGO LAKE, WHITE MTS., MT. WASHINGTON, C-30, S-60
70°29.0W	44°12.0N	14/ 1/74	15°30'30	93-028	ME., N.H., SEBAGO LAKE, LEWISTON, RUMFORD, BATH, C-20, S-80
70°00.0W	44°23.0N	14/ 1/74	15°30'36	93-029	ME., KENNEBEC R., AUGUSTA, WATERVILLE, LEWISTON, S-100
70°51.2W	47°08.5N	12/ 1/74	16°57'30	64-318	ME., QUEBEC, QUEBEC CITY, ST. LAWRENCE R., ILE D'ORLEANS, S-100, C-20
70°00.4W	47°21.6N	12/ 1/74	16°57'40	64-319	ME., QUEBEC, NEW BRUNSWICK, ST. LAWRENCE R., S-100, C-50
69°45.0W	45°30.1S	1/ 1/74	13°16'40	58-111	ARGENTINA, LAGO COLHUE HUAPI, LAGO MISTERS, RIO SENEGUER
69°39.0W	19°16.6S	26/ 1/74	20°01'49	▲ 76-127	CHILE, PUNTA PICHACO, PAMPA DE TANA, C-80
69°13.6W	19°44.3S	26/ 1/74	20°01'59	▲ 76-128	CHILE, BOLIVIA, ALTIPLANO, ANDES, C-75
69°06.7W	14°17.3S	1/ 2/74	17°18'17	48-197	PERU, NE OF CUZCO, C-85
69°06.7W	14°17.3S	1/ 2/74	17°18'17	94-390	PERU, C-93
69°56.2W	13°20.6S	1/ 2/74	17°17'59	48-194	PERU, RIO CAMISEA, C-60
69°39.0W	13°40.4S	1/ 2/74	17°18'05	48-195	PERU, RIO MANU, C-85
69°23.2W	13°58.7S	1/ 2/74	17°18'11	48-196	PERU, NE OF CUZCO, C-85
69°26.2W	13°56.1S	27/ 1/74	19°17'30	76-284	PERU, BOLIVIA, RIO TAMBOPATA, RIO MADRE DE DIOS, C-85
69°56.2W	13°20.6S	1/ 2/74	17°17'59	94-387	PERU, RIO CAMISEA, C-80
69°39.0W	13°40.4S	1/ 2/74	17°18'05	94-388	PERU, RIO CAMISEA, C-60
69°23.2W	13°58.7S	1/ 2/74	17°18'11	94-389	PERU, C-95

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
69°23.9W	8°C1.ES	28/ 1/74	18°33'01	A4-104	BRAZIL, BOLIVIA, RIO ABUNA, C-96
69°01.1W	8°31.3S	28/ 1/74	18°33'11	A4-105	BRAZIL, BOLIVIA, RIO ABUNA, C-95
69°46.9W	7°31.5S	28/ 1/74	18°32'51	A4-103	BRAZIL, RIO PURAS, C-97
69°23.5W	4°32.6N	30/ 1/74	17°03'49	A4-255	COLOMBIA, RIO VICHADA, C-40
69°21.5W	4°35.2N	7/12/73	14°56'41	* 49-410	COLOMBIA, RIO TOMO C-20
69°28.1W	4°45.5N	7/12/73	14°56'38	91-119	COLOMBIA, RIO VICHADA, C-20
69°13.6W	4°26.6N	7/12/73	14°56'44	91-120	COLOMBIA, RIO VICHADA, C-25
69°00.1W	4°08.7N	7/12/73	14°56'50	91-121	COLOMBIA, RIO GUAVIARE, C-30
69°43.1W	5°05.3N	7/12/73	14°56'31	* 49-409	COLOMBIA, RIO TOMO C-25
69°56.8W	5°24.4N	7/12/73	14°56'25	91-117	COLOMBIA, RIO META, C-15
69°42.0W	5°04.4N	7/12/73	14°56'31	91-118	COLOMBIA, RIO TAMO, RIO VICHADA, C-2C
69°28.1W	10°56.7N	31/ 1/74	16°19'10	A4-382	VENEZUELA, CORO, BARQUISIMETO, CHURUGUARA, C-20
69°16.6W	10°17.3N	31/ 1/74	16°19'20	A4-383	VENEZUELA, BARQUISIMETO, SAN PABLO, MARIN, C-20
69°26.8W	10°50.6N	3/12/73	16°11'41	* 52-264	VENEZUELA, CORO, BARQUISIMETO, C-6C
69°03.8W	10°21.1N	3/12/73	16°11'51	* 52-265	VENEZUELA, SAN CARLOS, RIO COJEDES, C-70
69°15.3W	10°41.5N	21/ 1/74	20°17'40	* 64-416	VENEZUELA, BARQUISIMETO, RIO YARACUY, C-25
69°10.3W	10°28.4N	3/12/73	16°11'48	90-241	VENEZUELA, BARQUISIMETO, SAL FELIPE C-60
69°22.2W	10°47.6N	21/ 1/74	20°17'38	92-323	VENEZUELA, RIO TOCUYO, CHURUGUARA, C-20
69°04.4W	10°25.5N	21/ 1/74	20°17'44	92-324	VENEZUELA, CHIVACOA, SAN PABLO, SAN FELIPE, C-15
69°51.5W	11°28.2N	31/ 1/74	16°19'00	A4-381	VENEZUELA, PEN. DE PARAGUANA, GOLFETE DE CORO, CUKO, GULF OF VENEZUELA
69°50.6W	11°20.4N	3/12/73	16°11'31	* 52-263	VENEZUELA, CORO, GOLFETE DE CORO, C-40
69°38.4W	11°11.4N	21/ 1/74	20°17'30	* 64-415	VENEZUELA, GOLFETE DE CORO, CORO, CHURUGUARA, C-30
69°42.0W	11°08.4N	3/12/73	16°11'35	90-240	VENEZUELA, CORO CHURUGUARA C-35
69°49.2W	11°25.4N	21/ 1/74	20°17'25	92-321	VENEZUELA, PARAGUANA PEN., GOLFETE DE CORO, CORO, C-25
69°37.0W	11°06.4N	21/ 1/74	20°17'31	92-322	VENEZUELA, CORO, CHURUGUARA, C-2C
69°03.4W	16°16.2N	22/ 1/74	19°33'18	70-299	CARIBBEAN SEA, C-20
69°55.5W	17°13.3N	22/ 1/74	19°32'58	70-298	CARIBBEAN SEA, C-20
69°15.0W	21°45.5N	18/ 1/74	20°48'21	70-195	ATLANTIC O. NORTH OF WEST INDIES, C-40
69°41.3W	22°13.7N	18/ 1/74	20°48'11	70-194	ATLANTIC O. NORTH OF WEST INDIES, C-25
69°18.6W	26°35.7N	24/ 1/74	18°04'42	70-398	ATLANTIC O. NORTH OF WEST INDIES, C-20
69°46.3W	27°01.7N	24/ 1/74	18°04'32	70-397	ATLANTIC O. NORTH OF WEST INDIES, C-15
69°20.6W	30°51.8N	20/ 1/74	19°19'51	70-231	ATLANTIC O., BERMUDA TRIANGLE, C-35
69°11.0W	30°42.1N	25/ 1/74	17°20'40	▲ 76-041	ATLANTIC O., BERMUDA TRIANGLE, C-20
69°42.0W	31°07.8N	25/ 1/74	17°20'30	▲ 76-040	ATLANTIC O., BERMUDA TRIANGLE, C-2C
69°26.2W	34°43.5N	8/ 1/74	16°34'54	64-119	ATLANTIC O. EAST OF CAROLINAS, C-4C
69°58.8W	34°18.5N	8/ 1/74	16°34'44	89-323	ATLANTIC O. OFF CAROLINAS, C-40
69°38.0W	34°34.1N	8/ 1/74	16°34'50	89-324	ATLANTIC O. OFF CAROLINAS, C-40
69°16.9W	34°45.1N	8/ 1/74	16°34'56	89-325	ATLANTIC O. OFF CAROLINAS, C-40
69°46.6W	37°38.7N	7/ 1/74	17°18'40	64-038	ATLANTIC O. EAST OF THE CAROLINAS, C-100
69°34.7W	37°45.1N	7/ 1/74	17°18'43	89-215	ATLANTIC O. OFF CAROLINAS, C-10C
69°02.4W	44°47.4N	14/ 1/74	15°30'50	70-051	ME., PENOBSCOT BAY, BANGOR, KENNEBEC R., AUGUSTA, C-20, S-100
69°31.0W	44°34.4N	14/ 1/74	15°30'42	93-030	ME., PENOBSCOT BAY, KENNEBEC R., AUGUSTA, SHONHEGAN, S-100
69°05.4W	44°45.3N	14/ 1/74	15°30'49	93-031	ME., BANGOR, PENOBSCOT R., OLD TOWN, BELFAST, C-100
69°05.1W	47°34.5N	12/ 1/74	16°57'50	64-320	ME., QUEBEC, NEW BRUNSWICK, ST. LAWRENCE R., S-100, C-50
68°57.8W	45°14.3S	1/ 1/74	13°16'50	58-112	ARGENTINA, LAGO COLHUE HUAPI, LAGO MLSTERS, RIO CHICO
68°11.0W	44°58.4S	1/ 1/74	13°17'00	58-113	ARGENTINA, LAGO COLHUE HUAPI, RIO CHICO
68°48.3W	20°12.6S	26/ 1/74	20°02'09	▲ 76-129	CHILE, BOLIVIA, SALAR DE EMPEXA, ANDES, C-65
68°22.2W	20°41.5S	26/ 1/74	20°02'19	▲ 76-130	CHILE, BOLIVIA, SALAR DE EMPEXA, RIO COA, C-50
68°23.2W	15°01.4S	1/ 2/74	17°18'34	48-198	PERU, CORDILLERA DE VILCANOTA, RIO ALTO MADRE DE DIOS, C-75
68°06.7W	15°25.1S	1/ 2/74	17°18'40	48-199	PERU, RIO MADRE DE DIOS, C-75
68°14.0W	15°23.3S	27/ 1/74	19°18'00	76-286	BOLIVIA, RIO BENI, C-52
68°22.7W	15°13.5S	1/ 2/74	17°18'36	94-393	PERU, BOLIVIA, CORDILLERA REAL, C-55
68°06.6W	15°31.3S	1/ 2/74	17°18'42	94-394	PERU, BOLIVIA, CORDILLERA REAL, C-5C
68°38.4W	14°54.3S	27/ 1/74	19°17'50	76-285	PERU, BOLIVIA, C-90
68°57.6W	14°35.1S	1/ 2/74	17°18'23	94-391	PERU, RIO ALTO MADRE DE DIOS, CORDILLERA DE VILCANOTA, C-80
68°41.5W	14°52.6S	1/ 2/74	17°18'29	94-392	PERU, RIO ALTO MADRE DE DIOS, C-7C
68°38.4W	9°00.6S	28/ 1/74	18°33'21	A4-106	BRAZIL, BOLIVIA, RIO MADRE DE DIOS, C-90
68°15.3W	9°30.3S	28/ 1/74	18°33'31	A4-107	BRAZIL, BOLIVIA, RIO MADRE DE DIOS, C-95
68°04.1W	2°54.2N	7/12/73	14°57'15	91-125	COLOMBIA, RIO INIRIDA, RIO GUAINIA, C-5C
68°38.7W	3°33.1N	30/ 1/74	17°04'09	A4-256	COLOMBIA, RIO GUAVIARE, C-8C
68°37.5W	3°35.2N	7/12/73	14°57'01	* 49-412	COLOMBIA, RIO VICHADA, RIO GUAVIARE C-25
68°15.1W	3°05.2N	7/12/73	14°57'11	* 49-413	COLOMBIA, RIO GUAVIARE, RIO INIRIDA C-20
68°45.3W	3°45.1N	7/12/73	14°56'57	91-122	COLOMBIA, RIO GUAVIARE, C-35
68°31.1W	3°30.3N	7/12/73	14°57'03	91-123	COLOMBIA, RIO GUAVIARE, RIO INIRIDA, C-25
68°17.0W	3°11.6N	7/12/73	14°57'09	91-124	COLOMBIA, RIO INIRIDA, C-25
68°59.1W	4°05.3N	7/12/73	14°56'51	* 49-411	COLOMBIA, RIO TOMO, RIO VICHADA C-15
68°46.9W	9°55.6N	31/ 1/74	16°19'30	A4-384	VENEZUELA, VALENCIA, BARQUISIMETO, ACARIGLA, C-12

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
68°08.7W	9°39.5N	31/ 1/74	16°19'40	A4-385	VENEZUELA, VALENCIA, LAGO VALENCIA, SAN CARLOS
68°41.0W	9°52.3N	3/12/73	16°12'01	* 52-266	VENEZUELA, VALENCIA, SAN CARLOS, C-65
68°18.6W	9°23.3N	3/12/73	16°12'11	* 52-267	VENEZUELA, VALENCIA, RIO COJEDES, C-50
68°28.8W	9°39.5N	21/ 1/74	20°18'00	* 64-418	VENEZUELA, VALENCIA, RIO PORTUGUESA, TINAQUILLO, C-35
68°07.4W	9°11.6N	21/ 1/74	20°18'10	* 64-419	VENEZUELA, CALABOZO, EMBALSE DE GLARICO, C-20
68°40.0W	9°45.5N	3/12/73	16°12'02	90-242	VENEZUELA, SAN CARLOS, RIO COJEDES C-50
68°09.0W	9°09.5N	3/12/73	16°12'15	90-243	VENEZUELA, RIO COJEDES, LIBERTAD, EL BAUL C-10
68°37.7W	9°50.8N	21/ 1/74	20°17'56	92-326	VENEZUELA, SAN CARLOS, TINACO, C-25
68°23.5W	9°31.5N	21/ 1/74	20°18'03	92-327	VENEZUELA, SAN CARLOS, TINACO, C-30
68°10.4W	9°14.7N	21/ 1/74	20°18'09	92-328	VENEZUELA, RIO CIRQUE, RIO TINACO, C-30
68°49.6W	10°12.0N	21/ 1/74	20°17'50	* 64-417	VENEZUELA, BARQUISIMETO, SAN CARLOS, TINACO, C-25
68°49.6W	10°11.2N	21/ 1/74	20°17'50	92-325	VENEZUELA, CHIVACOA, SAN PABLO, SAN FELIPE, C-15
68°08.4W	15°15.5N	22/ 1/74	19°33'38	70-300	CARIBBEAN SEA, C-20
68°22.9W	20°45.1N	18/ 1/74	20°48'41	70-197	ATLANTIC O. NORTH OF WEST INDIES, C-45
68°48.9W	21°17.5N	18/ 1/74	20°48'31	70-196	ATLANTIC O. NORTH OF WEST INDIES, C-50
68°22.2W	25°40.8N	24/ 1/74	18°05'02	70-400	ATLANTIC O. NORTH OF WEST INDIES, C-10
68°50.2W	26°05.3N	24/ 1/74	18°04'52	70-399	ATLANTIC O. NORTH OF WEST INDIES, C-15
68°18.6W	29°59.9N	20/ 1/74	19°20'11	70-232	ATLANTIC O., BERMUDA TRIANGLE, C-35
68°09.7W	29°50.0N	25/ 1/74	17°21'00	▲ 76-043	ATLANTIC O., BERMUDA TRIANGLE, C-15
68°40.4W	30°16.2N	25/ 1/74	17°20'50	▲ 76-042	ATLANTIC O., BERMUDA TRIANGLE, C-20
68°17.3W	35°31.5N	8/ 1/74	16°35'14	64-120	ATLANTIC O. EAST OF CAROLINAS, C-50
68°55.5W	35°04.3N	8/ 1/74	16°35'02	89-326	ATLANTIC O. OFF CAROLINAS, C-40
68°34.1W	35°19.1N	8/ 1/74	16°35'09	89-327	ATLANTIC O. OFF CAROLINAS, C-40
68°12.0W	35°34.1N	8/ 1/74	16°35'15	89-328	ATLANTIC O. OFF MID-ATLANTIC STATES, C-60
68°32.8W	38°23.5N	7/ 1/74	17°19'00	64-039	ATLANTIC O. EAST OF THE CAROLINAS, C-100
68°41.7W	38°17.2N	7/ 1/74	17°18'57	89-216	ATLANTIC O. OFF CAROLINAS, C-100
68°43.0W	40°45.8N	6/ 1/74	18°02'40	58-367	ATLANTIC O., C-100
68°32.1W	44°57.5N	14/ 1/74	15°30'55	93-032	ME., BANGOR, PENOBSCOT R., ORONO, PENOBSCOT BAY, S-100
68°14.6W	45°04.1N	14/ 1/74	15°31'00	70-052	ME., NEW BRUNSWICK, PENOBSCOT BAY, MT. DESERT I., ST. JOHN R., S-100
68°07.1W	45°05.5N	14/ 1/74	15°31'01	93-033	ME., NEW BRUNSWICK, WEST GRAND LAKE, ST. CROIX R., S-10
68°17.6W	47°46.0N	12/ 1/74	16°58'00	64-321	ME., QUEBEC, NEW BRUNSWICK, ST. LAWRENCE R., GASPE, S-100, C-50
67°24.9W	44°41.5S	1/ 1/74	13°17'10	58-114	ARGENTINA, PAMPA DE SALAMANCA, GRAN LAGUNA SALADA
67°56.2W	21°05.8S	26/ 1/74	20°02'29	▲ 76-131	CHILE, BOLIVIA, SALAR DE ESCOTAN, CERRO PERUMA, C-40
67°33.5W	16°02.5S	1/ 2/74	17°18'53	48-201	PERU, BOLIVIA, CORDILLERA REAL, C-70
67°16.6W	16°20.5S	1/ 2/74	17°18'59	48-202	BOLIVIA, CORDILLERA REAL, C-70
67°25.5W	16°21.1S	27/ 1/74	19°18'20	76-288	BOLIVIA, LA PAZ, CORDILLERA REAL, C-50
67°00.8W	16°50.1S	27/ 1/74	19°18'30	76-289	BOLIVIA, CORDILLERA REAL, C-90
67°34.3W	16°06.8S	1/ 2/74	17°18'54	94-396	BOLIVIA, CORDILLERA REAL, C-EC
67°18.2W	16°24.6S	1/ 2/74	17°19'00	94-397	BOLIVIA, CORDILLERA REAL, C-80
67°49.9W	15°44.0S	1/ 2/74	17°18'46	48-200	PERU, BOLIVIA, CORDILLERA REAL, C-75
67°49.9W	15°52.3S	27/ 1/74	19°18'10	76-287	BOLIVIA, CORDILLERA REAL, LA PAZ
67°50.5W	15°45.0S	1/ 2/74	17°18'48	94-395	BOLIVIA, CORDILLERA REAL, C-65
67°28.8W	10°25.6S	28/ 1/74	18°33'51	A4-109	BRAZIL, BOLIVIA, RIO BENI, RIO GUAPORE, C-85
67°05.8W	10°56.5S	28/ 1/74	18°34'01	A4-110	BRAZIL, BOLIVIA, RIO BENI, C-50
67°52.8W	9°55.8S	28/ 1/74	18°33'41	A4-108	BRAZIL, BOLIVIA, RIO MADRE DE DIOS, C-90
67°32.8W	4°11.5S	1/12/73	17°41'52	* 52-146	BRAZIL, AMAZON BASIN, C-50
67°10.1W	4°41.7S	1/12/73	17°42'02	* 52-147	BRAZIL, AMAZON BASIN, C-65
67°31.5W	4°14.9S	1/12/73	17°41'52	90-112	BRAZIL, RIO JUTAI C-75
67°19.9W	4°30.2S	1/12/73	17°41'57	90-113	BRAZIL, RIO JUATI C-90
67°06.1W	4°48.3S	1/12/73	17°42'03	90-114	BRAZIL, RIO JUATI C-92
67°55.5W	3°52.1S	1/12/73	17°41'42	* 52-145	BRAZIL, AMAZON BASIN, C-50
67°43.1W	3°55.3S	1/12/73	17°41'47	90-111	BRAZIL, RIO JAPURA, CAPANA, C-40
67°09.4W	1°33.8N	30/ 1/74	17°04'49	A4-258	COLOMBIA, RIO GUAVIARE, BRAZIL, C-95
67°10.4W	1°42.5N	7/12/73	14°57'39	91-129	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, C-85
67°54.2W	2°33.7N	30/ 1/74	17°04'29	A4-257	COLOMBIA, RIO GUAVIARE, BRAZIL, RIO CASICUARE, RIO NEGRO, C-85
67°53.5W	2°35.2N	7/12/73	14°57'21	* 49-414	COLOMBIA, RIO GUAVIARE, RIO INTRIDA C-50
67°31.1W	2°05.3N	7/12/73	14°57'31	* 49-415	COLOMBIA C-80
67°49.9W	2°35.4N	7/12/73	14°57'22	91-126	COLOMBIA, VENEZUELA, RIO GUAINIA, C-45
67°37.1W	2°18.4N	7/12/73	14°57'27	91-127	COLOMBIA, VENEZUELA, BRAZIL, RIO GUAINIA, C-80
67°23.9W	2°00.6N	7/12/73	14°57'33	91-128	COLOMBIA, VENEZUELA, BRAZIL, C-58
67°09.7W	7°54.3N	3/12/73	16°12'41	* 52-270	VENEZUELA, RIO ORINOCO, RIO APURE, C-20
67°33.5W	8°31.3N	31/ 1/74	16°20'00	A4-387	VENEZUELA, CALABOZO, GUARIGO RES., RIO PORTUGUESA, C-15
67°10.7W	8°01.8N	31/ 1/74	16°20'10	A4-388	VENEZUELA, RIO ORINOCO, RIO RUENDE, RIO APURE, C-25
67°55.2W	8°53.1N	3/12/73	16°12'21	* 52-268	VENEZUELA, CALABOZO, EMBALSE DE GLARICO, RIO COJEDES, C-15
67°32.5W	8°23.8N	3/12/73	16°12'31	* 52-269	VENEZUELA, CALABOZO, EMBALSE DE GLARICO, SAN FERNANDO, C-15
67°46.3W	8°44.9N	21/ 1/74	20°18'20	* 64-420	VENEZUELA, EMBALSE DE GUARICO, RIO RUENDE, C-20
67°22.6W	8°14.0N	21/ 1/74	20°18'30	* 64-421	VENEZUELA, EMBALSE DE GUARICO, INGLATERRA, RIO RUENDE, C-18

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
67°38.1W	8°25.7N	3/12/73	16°12'29	90-244	VENEZUELA, CALABOZO, RIO COJEDES C-15
67°56.9W	8°57.4N	21/ 1/74	20°18'15	92-329	VENEZUELA, CALABOZO, EMBAL SE-DE GLARICO
67°56.5W	9°01.0N	31/ 1/74	16°15'50	A4-386	VENEZUELA, CALABOZO, RIO PORTUGUESA
67°40.0W	14°46.8N	22/ 1/74	19°33'48	70-301	CARIBBEAN SEA, C-30
67°48.3W	14°54.3N	22/ 1/74	19°33'45	93-181	CARIBBEAN SEA, C-30
67°35.8W	19°55.7N	30/11/73	16°43'00	* 52-083	ATLANTIC O. NORTH OF PUERTO RICO, C-20
67°10.4W	19°27.4N	30/11/73	16°43'10	* 52-084	ATLANTIC O. NORTH OF PUERTO RICO, C-20
67°31.5W	19°52.5N	18/ 1/74	20°49'01	70-199	ATLANTIC O. NORTH OF WEST INDIES, C-30
67°06.1W	19°23.5N	18/ 1/74	20°49'11	70-200	PUERTO RICO, C-35
67°14.7W	15°32.5N	18/ 1/74	20°49'08	92-209	ATLANTIC O. NW OF PUERTO RICO, C-20
67°57.2W	20°20.8N	18/ 1/74	20°48'51	70-198	ATLANTIC O. NORTH OF WEST INDIES, C-30
67°26.9W	24°46.8N	24/ 1/74	18°05'22	70-402	ATLANTIC O. NORTH OF WEST INDIES, C-30
67°54.5W	25°14.0N	24/ 1/74	18°05'12	70-401	ATLANTIC O. NORTH OF WEST INDIES, C-20
67°09.4W	28°57.4N	25/ 1/74	17°21'20	▲ 76-045	ATLANTIC O., BERMUDA TRIANGLE, C-25
67°18.3W	29°07.3N	20/ 1/74	19°20'31	70-233	ATLANTIC O., BERMUDA TRIANGLE, C-20
67°39.1W	29°23.6N	25/ 1/74	17°21'10	▲ 76-044	ATLANTIC O., BERMUDA TRIANGLE, C-20
67°50.3W	35°45.1N	8/ 1/74	16°35'21	89-329	ATLANTIC O. OFF MID-ATLANTIC STATES, C-65
67°07.1W	36°18.5N	8/ 1/74	16°35'34	54-121	ATLANTIC O. EAST OF CAROLINAS, C-60
67°28.2W	36°03.5N	8/ 1/74	16°35'27	89-330	ATLANTIC O. OFF MID-ATLANTIC STATES, C-70
67°05.4W	36°19.1N	8/ 1/74	16°35'34	89-331	ATLANTIC O. OFF MID-ATLANTIC STATES, C-65
67°47.0W	38°49.2N	7/ 1/74	17°19'12	89-217	ATLANTIC O. OFF CAROLINAS, C-100
67°16.3W	39°07.7N	7/ 1/74	17°19'20	64-040	ATLANTIC O. EAST OF THE CAROLINAS, C-98
67°23.8W	41°28.0N	6/ 1/74	18°03'00	58-368	ATLANTIC O., C-100
67°25.9W	45°20.8N	14/ 1/74	15°31'10	70-053	ME., NEW BRUNSWICK, PASSAMQUODDY BAY, ST. JOHN, FREDRICKTON, S-100
67°37.7W	45°16.0N	14/ 1/74	15°31'07	93-034	ME., NEW BRUNSWICK, PASSAMQUODDY BAY, EASTPORT, ST. STEPHENS, S-100
67°06.1W	45°27.0N	14/ 1/74	15°31'13	93-035	ME., NEW BRUNSWICK, FREDRICKTON, CAMPOBELLO, CALIS, PASSAMQUODDY
67°24.9W	47°57.7N	12/ 1/74	16°58'10	64-322	QUEBEC, NEW BRUNSWICK, CHALEUR BAY, S-100, C-60
66°39.1W	44°24.7S	1/ 1/74	13°17'20	58-115	ARGENTINA, BAHIA CAMERONES, RIO CHUBUT, GRAN LAGUNA SALADA
66°32.1W	17°09.2S	1/ 2/74	17°19'15	48-205	BOLIVIA, CORDILLERA REAL, RIO ALTAMACHI, C-60
66°18.6W	17°23.8S	1/ 2/74	17°19'20	48-206	BOLIVIA, COCHABAMBA, CORDILLERA REAL, C-50
66°05.0W	17°38.3S	1/ 2/74	17°19'25	48-207	BOLIVIA, COCHABAMBA, CORDILLERA ORIENTAL, C-45
66°35.4W	17°19.0S	27/ 1/74	19°18'40	76-290	BOLIVIA, VENTILLA, C-80
66°11.4W	17°48.0S	27/ 1/74	19°18'51	76-291	BOLIVIA, CORDILLERA CENTRA, RIO CAINE, C-60
66°43.2W	17°03.0S	1/ 2/74	17°19'13	94-399	BOLIVIA, CORDILLERA REAL, COCHABAMBA, C-70
66°27.1W	17°20.8S	1/ 2/74	17°19'19	94-400	BOLIVIA, COCHABAMBA, CORDILLERA ORIENTAL, C-50
66°03.9W	17°38.5S	1/ 2/74	17°19'25	94-401	BOLIVIA, ARANI, CLIZA, MIZQUE, C-20
66°59.2W	16°40.1S	1/ 2/74	17°19'05	48-203	BOLIVIA, CORDILLERA REAL, C-70
66°45.7W	16°54.7S	1/ 2/74	17°19'10	48-204	BOLIVIA, CORDILLERA REAL, C-70
66°59.4W	16°45.3S	1/ 2/74	17°19'07	94-398	BOLIVIA, CORDILLERA REAL, RIO ALTAMACHI, C-85
66°42.7W	11°28.3S	28/ 1/74	18°34'11	A4-111	BRAZIL, BOLIVIA, RIO MEMORE, C-85
66°19.3W	11°57.4S	28/ 1/74	18°34'21	A4-112	BRAZIL, BOLIVIA, RIO MEMORE, C-85
66°02.8W	6°10.5S	1/12/73	17°42'32	* 52-150	BRAZIL, AMAZON BASIN, C-60
66°11.1W	6°01.1S	1/12/73	17°42'28	90-118	BRAZIL, RIO COARI C-90
66°48.0W	5°11.2S	1/12/73	17°42'12	* 52-148	BRAZIL, AMAZON BASIN, C-60
66°25.6W	5°40.5S	1/12/73	17°42'22	* 52-149	BRAZIL, AMAZON BASIN, C-60
66°52.3W	5°06.6S	1/12/73	17°42'10	90-115	BRAZIL, RIO JUATI C-85
66°38.7W	5°24.7S	1/12/73	17°42'16	90-116	BRAZIL, RIO JURUA C-80
66°24.9W	5°43.0S	1/12/73	17°42'22	90-117	BRAZIL, RIO REPARTIMENTO C-80
66°24.9W	0°34.4N	30/ 1/74	17°05'09	A4-259	BRAZIL, C-100
66°30.1W	0°45.5N	7/12/73	14°57'58	91-132	VENEZUELA, BRAZIL, RIO NEGRO, C-30
66°15.3W	0°25.0N	7/12/73	14°58'04	91-133	BRAZIL, RIO TA., C-35
66°00.8W	0°05.7N	7/12/73	14°58'11	91-134	BRAZIL, RIO NEGRO, C-30
66°55.5W	1°22.5N	7/12/73	14°57'46	91-130	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, CLCLI, C-50
66°42.0W	1°04.8N	7/12/73	14°57'52	91-131	COLOMBIA, VENEZUELA, BRAZIL, RIO NEGRO, CLCLI, C-30
66°02.5W	6°32.5N	31/ 1/74	16°20'40	A4-391	VENEZUELA, SABANA HAMACU, SERRANIA GLAYAPU, C-70
66°14.0W	6°44.7N	21/ 1/74	20°19'00	* 54-424	VENEZUELA, SERRANIA GUAYAPU, C-30
66°14.4W	6°51.0N	21/ 1/74	20°18'57	92-332	BRAZIL, AMAZON BASIN, C-100
66°48.0W	7°32.2N	31/ 1/74	16°20'20	A4-389	VENEZUELA, RIO ORINOCO, RIO APURE, CAICARA, C-40
66°25.2W	7°02.7N	31/ 1/74	16°20'30	A4-390	VENEZUELA, RIO ORINOCO, CAICARA, SABANA SIAMACU, C-60
66°59.5W	7°44.1N	21/ 1/74	20°18'40	* 64-422	VENEZUELA, RIO ORINOCO, RIO RUENDE, CAICARA, C-15
66°36.8W	7°14.4N	21/ 1/74	20°18'50	* 64-423	VENEZUELA, RIO ORINOCO, SERRANIA DE PARGLAZA, RIO RUENDE, C-20
66°42.9W	7°25.8N	21/ 1/74	20°18'45	92-330	BRAZIL, AMAZON BASIN, C-100
66°28.8W	7°08.4N	21/ 1/74	20°18'51	92-331	BRAZIL, AMAZON BASIN, C-100
66°43.7W	13°48.3N	22/ 1/74	19°34'08	70-302	CARIBBEAN SEA, C-30
66°45.3W	18°58.5N	30/11/73	16°43'20	* 52-085	PUERTO RICO, REMY AFB, ARECIBO, C-25
66°20.3W	18°30.5N	30/11/73	16°43'30	* 52-086	PUERTO RICO, SAN JUAN, PUNCE, C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
66°40.7N	18°55.4N	18/ 1/74	20°49'21	70-201	PUERTO RICO, C-45
66°15.7N	18°26.8N	18/ 1/74	20°49'31	70-202	PUERTO RICO, SAN JUAN, VIEQUES I., GUELBRA I., C-50
66°23.2N	18°32.5N	30/11/73	16°43'29	90-057	PUERTO RICO, SAN JUAN, ARECIBO C-30
66°07.7N	18°15.2N	30/11/73	16°43'35	90-058	PUERTO RICO, SAN JUAN, ROOSEVELT ROADS, FAJARDO, HUMACAO C-20
66°43.4N	18°57.4N	18/ 1/74	20°49'20	92-211	PUERTO RICO, VEGA BAJA, C-30
66°27.5N	18°39.4N	18/ 1/74	20°49'26	92-212	PUERTO RICO, SAN JUAN, RAYMOND, RINCON BAY, C-30
66°11.1N	18°20.8N	18/ 1/74	20°49'33	92-213	PUERTO RICO, SAN JUAN, HUMACAO, GLAYAMA, C-35
66°59.2N	19°15.2N	18/ 1/74	20°49'14	92-210	ATLANTIC O. NW OF PUERTO RICO, C-15
66°32.1N	23°51.6N	24/ 1/74	18°05'42	70-404	ATLANTIC O. NORTH OF WEST INDIES, C-35
66°05.1N	23°23.7N	24/ 1/74	18°05'52	70-405	ATLANTIC O. NORTH OF WEST INDIES, C-30
66°59.2N	24°15.1N	24/ 1/74	18°05'32	70-403	ATLANTIC O. NORTH OF WEST INDIES, C-30
66°19.4N	28°14.9N	20/ 1/74	19°20'51	70-234	ATLANTIC O., BERMUDA TRIANGLE, C-50
66°39.7N	28°31.1N	25/ 1/74	17°21'30	▲ 76-046	ATLANTIC O., BERMUDA TRIANGLE, C-20
66°10.7N	28°04.5N	25/ 1/74	17°21'40	▲ 76-047	ATLANTIC O., S. OF BERMUDA, C-25
66°43.4N	36°33.6N	8/ 1/74	16°35'40	89-332	ATLANTIC O. OFF MID-ATLANTIC STATES, C-65
66°20.9N	36°47.5N	8/ 1/74	16°35'46	89-333	ATLANTIC O. OFF MID-ATLANTIC STATES, C-70
66°51.3N	39°20.5N	7/ 1/74	17°19'26	89-218	ATLANTIC O. OFF CAROLINAS, C-100
66°03.8N	42°10.1N	6/ 1/74	18°03'20	58-369	ATLANTIC O., C-100
66°36.8N	45°37.2N	14/ 1/74	15°31'20	70-054	ME., NEW BRUNSWICK, BAY OF FUNDY, ST. JOHN, FREDERICTON, S-100
66°36.4N	45°36.6N	14/ 1/74	15°31'20	93-036	NEW BRUNSWICK, ENNISKILLEN, FREDERICTON, ST. JOHN, ST. JOHN R., S-10
66°12.0N	45°43.7N	14/ 1/74	15°31'26	93-037	NEW BRUNSWICK, ST. JOHN, ST. JOHN R., GRAND L., FREDERICTON, S-10
66°32.5N	48°08.7N	12/ 1/74	16°58'20	64-323	QUEBEC, NEW BRUNSWICK, CHALEUR BAY, S-100, C-50
66°05.5N	49°04.1N	11/ 1/74	17°41'50	64-244	QUEBEC, C-100, S-100
65°53.6N	44°07.4S	1/ 1/74	13°17'30	58-116	ARGENTINA, RIO CHUBUT, RIO CHICO, CABO RASO
65°08.8N	43°45.7S	1/ 1/74	13°17'40	58-117	ARGENTINA, RAWSON, RIO CHUBUT, TRELEW, C-10
65°36.4N	18°07.7S	1/ 2/74	17°19'35	48-209	BOLIVIA, RIO CAINE, RIO CHAPARE, C-30
65°22.6N	18°22.5S	1/ 2/74	17°19'40	48-210	BOLIVIA, RIO CAINE, C-30
65°08.9N	18°37.2S	1/ 2/74	17°19'45	48-211	BOLIVIA, CORDILLERA CENTRAL, CORDILLERA ORIENTAL, C-30
65°46.3N	18°16.6S	27/ 1/74	19°19'01	76-292	BOLIVIA, AIQUILE, TOTORO, CORDILLERA CENTRAL, RIO MIZQUE, C-40
65°21.3N	18°45.3S	27/ 1/74	19°19'10	76-293	BOLIVIA, SUCRE, RIO CHICO, CORDILLERA CENTRAL, C-35
65°28.9N	18°28.5S	1/ 2/74	17°19'38	94-403	BOLIVIA, RIO CAINE, C-30
65°10.1N	18°37.7S	1/ 2/74	17°19'45	94-404	BOLIVIA, SUCRE, RIO MIZQUE, C-40
65°50.2N	17°52.5S	1/ 2/74	17°19'30	48-208	BOLIVIA, COCHABAMBA, C-40
65°47.7N	17°56.2S	1/ 2/74	17°19'31	94-402	BOLIVIA, RIO CAINE, RIO CHAPARE, C-35
65°08.4N	13°25.6S	28/ 1/74	18°34'51	A4-115	BOLIVIA, RIO SAN MIGUEL, LAGO SAN LUIS, C-75
65°55.9N	12°26.8S	28/ 1/74	18°34'31	A4-113	BOLIVIA, RIO SAN MIGUEL, LAGO SAN LUIS, C-80
65°32.2N	12°56.4S	28/ 1/74	18°34'41	A4-114	BOLIVIA, RIO SAN MIGUEL, LAGO SAN LUIS, C-80
65°18.0N	7°09.5S	1/12/73	17°42'52	* 52-152	BRAZIL, AMAZON BASIN, RIO JURUA, C-60
65°16.3N	7°13.0S	1/12/73	17°42'52	90-122	BRAZIL, RIO PURAS C-90
65°02.2N	7°31.5S	1/12/73	17°42'59	90-123	BRAZIL, RIO PURAS C-90
65°40.4N	6°40.0S	1/12/73	17°42'42	* 52-151	BRAZIL, AMAZON BASIN, C-60
65°57.2N	6°19.1S	1/12/73	17°42'34	90-119	BRAZIL, RIO COARI C-90
65°43.4N	6°37.6S	1/12/73	17°42'40	90-120	BRAZIL C-97
65°29.5N	6°55.5S	1/12/73	17°42'46	90-121	BRAZIL C-98
65°07.4N	1°01.5S	7/12/73	14°58'35	91-138	BRAZIL, C-60
65°40.4N	0°25.0S	30/ 1/74	17°05'29	A4-260	BRAZIL, C-99
65°47.3N	0°08.3S	7/12/73	14°58'17	91-135	BRAZIL, RIO NEGRO, C-30
65°34.8N	0°25.0S	7/12/73	14°58'22	91-136	BRAZIL, RIO NEGRO, C-50
65°27.6N	0°34.5S	7/12/73	14°58'26	91-137	BRAZIL, RIO NEGRO, C-50
65°17.7N	5°33.5N	31/ 1/74	16°21'00	A4-393	VENEZUELA, RIO VENTUARI, C-50
65°28.9N	5°45.4N	21/ 1/74	20°19'20	* 64-426	VENEZUELA, RIO VENTUARI, SIERRA MAIGALIDE, C-40
65°06.5N	5°15.7N	21/ 1/74	20°19'30	* 64-427	VENEZUELA, RIO VENTUARI, C-45
65°40.1N	6°03.2N	31/ 1/74	16°20'50	A4-392	VENEZUELA, SIERRA DAGUAL IDE, C-53
65°51.6N	6°15.1N	21/ 1/74	20°19'10	* 64-425	VENEZUELA, SERRANIA GUAYAPU, RIO COCHIVERO, C-35
65°48.2N	12°52.7N	22/ 1/74	19°34'28	70-303	CARIBBEAN SEA, C-20
65°48.0N	12°21.2N	22/ 1/74	19°34'38	93-182	CARIBBEAN SEA, C-40
65°06.5N	12°00.3N	22/ 1/74	19°34'45	93-183	CARIBBEAN SEA, C-30
65°30.5N	17°33.4N	30/11/73	16°43'50	* 52-088	PUERTO RICO, HUMACAO, VIEQUES I., C-35
65°05.8N	17°04.5N	30/11/73	16°44'00	* 52-089	CARIBBEAN SEA, C-35
65°50.6N	17°58.2N	18/ 1/74	20°49'41	70-203	PUERTO RICO, SAN JUAN, VIEQUES I., ST. CROIX, C-50
65°25.9N	17°25.4N	18/ 1/74	20°49'51	70-204	VIEQUES I., GUELBRA I., ST. CROIX, C-30
65°01.2N	17°00.6N	18/ 1/74	20°50'01	70-205	ST. CROIX I., C-30
65°52.3N	17°57.4N	30/11/73	16°43'41	90-059	PUERTO RICO, SAN JUAN, HUMACAO, VIEQUES I. C-20
65°37.4N	17°40.0N	30/11/73	16°43'48	90-060	PUERTO RICO, HUMACAO, VIEQUES I. C-30
65°21.6N	17°21.7N	30/11/73	16°43'54	90-061	CARIBBEAN SEA C-40
65°06.8N	17°04.5N	30/11/73	16°44'00	90-062	CARIBBEAN SEA C-45
65°40.7N	17°45.7N	18/ 1/74	20°49'45	92-215	PUERTO RICO, VIEQUES I., HUMACAO, C-15
65°25.2N	17°27.5N	18/ 1/74	20°49'51	92-216	CARIBBEAN SEA SE OF PUERTO RICO, C-15
65°10.4N	17°10.3N	18/ 1/74	20°49'57	92-217	CARIBBEAN SEA SE OF PUERTO RICO, C-15

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
65°55.2W	18°01.5N	30/11/73	16°43'40	* 52-087	PUERTO RICO, SAN JUAN, VIEQUES I., C-30
65°55.9W	18°03.4N	18/ 1/74	20°49'39	92-214	PUERTO RICO, SAN JUAN, FAJARDO, VIEQUES I., C-30
65°38.4W	22°55.5N	24/ 1/74	18°06'02	70-406	ATLANTIC O. NORTH OF WEST INDIES, C-25
65°11.7W	22°28.2N	24/ 1/74	18°06'12	70-407	ATLANTIC O. NORTH OF WEST INDIES, C-25
65°20.6W	27°20.5N	20/ 1/74	19°21'11	70-235	ATLANTIC O., BERMUDA TRIANGLE, C-20
65°41.4W	27°38.4N	25/ 1/74	17°21'50	▲ 76-048	ATLANTIC O., S. OF BERMUDA, C-45
65°12.4W	27°11.1N	25/ 1/74	17°22'00	▲ 76-049	ATLANTIC O., S. OF BERMUDA, C-60
65°55.2W	37°05.2N	8/ 1/74	16°35'54	64-122	ATLANTIC O. EAST OF VIRGINIA, C-70
65°58.5W	37°02.4N	8/ 1/74	16°35'53	89-334	ATLANTIC O. OFF MID-ATLANTIC STATES, C-75
65°36.4W	37°16.3N	8/ 1/74	16°35'59	89-335	ATLANTIC O. OFF NEW ENGLAND, C-75
65°13.7W	37°30.4N	8/ 1/74	16°36'05	89-336	ATLANTIC O. OFF NEW ENGLAND, C-75
65°52.3W	39°53.6N	7/ 1/74	17°19'40	64-041	ATLANTIC O. EAST OF THE CAROLINAS, C-98
65°50.0W	39°54.4N	7/ 1/74	17°19'40	89-219	ATLANTIC O. OFF CAROLINAS, C-100
65°19.3W	40°11.8N	7/ 1/74	17°19'50	64-042	ATLANTIC O. EAST OF VIRGINIA, C-95
65°00.2W	40°00.2N	14/ 1/74	17°11'26	93-114	OBLIQUE VIEW, STORM CLOUDS AT LABRADOR
65°00.1W	40°00.1N	14/ 1/74	17°11'28	93-115	OBLIQUE VIEW, STORM CLOUDS AT LABRADOR
65°00.0W	40°00.0N	14/ 1/74	17°11'30	93-116	OBLIQUE VIEW, STORM CLOUDS AT LABRADOR
65°49.0W	42°16.4N	6/ 1/74	18°03'23	91-369	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
65°52.6W	45°50.8N	14/ 1/74	15°31'30	70-055	NEW BRUNSWICK, NOVA SCOTIA, BAY OF FUNDY, CHIGNECTO BAY, MONCTON
65°37.4W	45°55.4N	14/ 1/74	15°31'32	93-038	NEW BRUNSWICK, BAY OF FUNDY, GRAND LAKE, BELLEFAY, S-10
65°05.5W	46°05.2N	14/ 1/74	15°31'39	93-039	NEW BRUNSWICK, NOVA SCOTIA, MONCTON, AMHERST, CHIGNECTO BAY, S-100
65°39.7W	48°19.4N	12/ 1/74	16°58'30	64-324	QUEBEC, NEW BRUNSWICK, CHALEUR BAY, GASPE, S-100, C-40
65°09.8W	49°12.3N	11/ 1/74	17°42'00	64-245	QUEBEC, ANTICOSTI I., WEST POINT, C-85, S-100
65°33.2W	49°08.2N	11/ 1/74	17°41'56	92-061	QUEBEC, GASPE PEN. + PASSAGE, ST. LAWRENCE R., C-60
64°24.3W	43°31.5S	1/ 1/74	13°17'50	58-118	ARGENTINA, PUNTA NINFAS, GOLFO NUEVO, RANSON, C-10
64°05.2W	20°10.5S	27/ 1/74	19°19'40	76-296	BOLIVIA, RIO PILCOMAYO, MONTEAGUDO, C-35
64°41.3W	19°06.8S	1/ 2/74	17°19'55	48-213	BOLIVIA, RIO MIZQUE, MOJOCOY, C-35
64°27.5W	19°21.6S	1/ 2/74	17°20'00	48-214	BOLIVIA, RIO CHICO, RIO MIZQUE, C-40
64°13.7W	19°36.2S	1/ 2/74	17°20'05	48-215	BOLIVIA, RIO PILCOMAYO, RIO GRANDE, C-40
64°56.2W	19°13.8S	27/ 1/74	19°19'20	76-294	BOLIVIA, SUCRE, POTOSI, RIO CHICO, CORDILLERA CENTRAL, C-40
64°30.9W	19°42.0S	27/ 1/74	19°19'30	76-295	BOLIVIA, RIO PILCOMAYO, POTOSI, C-40
64°34.8W	19°14.8S	1/ 2/74	17°19'58	94-406	BOLIVIA, RIO CHICO, RIO MIZQUE, C-60
64°17.4W	19°32.5S	1/ 2/74	17°20'04	94-407	BOLIVIA, RIO GRANDE, C-65
64°55.1W	18°52.0S	1/ 2/74	17°19'50	48-212	BOLIVIA, SUCRE, CORDILLERA CENTRAL, RIO MIZQUE, C-35
64°36.5W	18°14.5S	15/12/73	12°31'00	89-049	BOLIVIA, C-60
64°23.1W	18°27.5S	15/12/73	12°31'04	89-050	BOLIVIA, CORDILLERA CENTRAL, CORDILLERA ORIENTAL, C-65
64°10.9W	18°41.2S	15/12/73	12°31'09	89-051	BOLIVIA, CORDILLERA CENTRAL, CORDILLERA ORIENTAL, C-70
64°52.6W	18°56.2S	1/ 2/74	17°19'51	94-405	BOLIVIA, RIO MIZQUE, MOJOCOY, C-50
64°21.0W	14°23.8S	28/ 1/74	18°35'11	44-117	BOLIVIA, RIO SAN PABLO, C-75
64°23.6W	14°33.1S	5/12/73	16°28'21	91-088	BOLIVIA, RIO MAMORE, OVEREXPOSED, C-50
64°19.2W	14°35.0S	5/12/73	16°28'23	91-089	BOLIVIA, RIO MAMORE, OVEREXPOSED, C-50
64°14.1W	14°44.8S	5/12/73	16°28'25	91-090	BOLIVIA, RIO MAMORE, OVEREXPOSED, C-50
64°44.7W	13°54.8S	28/ 1/74	18°35'01	44-116	BOLIVIA, RIO SAN PABLO, C-80
64°32.5W	8°08.5S	1/12/73	17°43'12	* 52-154	BRAZIL, AMAZON BASIN, C-70
64°10.1W	8°38.0S	1/12/73	17°43'22	* 52-155	BRAZIL, AMAZON BASIN, C-65
64°33.8W	8°08.2S	1/12/73	17°43'11	90-125	BRAZIL, RIO MUCUIM, C-85
64°19.7W	8°26.7S	1/12/73	17°43'17	90-126	BRAZIL, RIO MADEIRA, C-80
64°06.1W	8°44.5S	1/12/73	17°43'23	90-127	BRAZIL, RIO MADEIRA, PORTO VELHO, C-80
64°55.3W	7°39.5S	1/12/73	17°43'02	* 52-153	BRAZIL, AMAZON BASIN, RIO JURUITA, C-60
64°48.0W	7°45.5S	1/12/73	17°43'05	90-124	BRAZIL, RIO PURAS, RIO MUCUIM, C-80
64°11.1W	2°24.3S	30/ 1/74	17°06'09	44-262	BRAZIL, LAGO AMANA, C-70
64°10.3W	2°17.7S	7/12/73	14°59'00	91-142	BRAZIL, RIO JUA, C-95
64°55.6W	1°24.5S	30/ 1/74	17°05'49	44-261	BRAZIL, RIO JAPURA, C-70
64°53.3W	1°20.7S	7/12/73	14°58'41	91-139	BRAZIL, C-70
64°39.4W	1°35.3S	7/12/73	14°58'47	91-140	BRAZIL, C-85
64°25.3W	1°58.1S	7/12/73	14°58'54	91-141	BRAZIL, RIO UNINI, C-50
64°32.8W	4°33.5N	31/ 1/74	16°21'20	44-395	VENEZUELA, BRAZIL, SERRA PARIMA, C-55
64°10.1W	4°04.4N	31/ 1/74	16°21'30	44-396	VENEZUELA, BRAZIL, SERRA PARIMA, C-50
64°43.7W	4°45.6N	21/ 1/74	20°19'40	* 64-428	VENEZUELA, RIO CAURA, RIO VENTURAI, C-50
64°21.3W	4°15.7N	21/ 1/74	20°19'50	* 64-429	VENEZUELA, BRAZIL, SERRA PARIMA, C-50
64°54.9W	5°03.7N	31/ 1/74	16°21'10	44-394	VENEZUELA, BRAZIL, SIERRA USADI-LUPI, C-55
64°12.7W	10°53.1N	22/ 1/74	19°35'08	70-306	VENEZUELA, ISLA MARGARITA, GULF DE CARIACO, CUMANA, C-30
64°47.0W	11°50.1N	22/ 1/74	19°34'48	70-304	CARIBBEAN SEA, BLANQUILLA I., C-20
64°38.8W	11°22.7N	22/ 1/74	19°34'58	70-305	VENEZUELA, ISLA MARGARITA, PEN. DE ARAYA, BLANQUILLA I., C-20
64°36.8W	11°41.2N	22/ 1/74	19°34'51	93-184	VENEZUELA, ISLA SANTA MARGARITA, C-30
64°35.8W	11°23.7N	22/ 1/74	19°34'57	93-185	VENEZUELA, PEN DE ARAYA, GULF OF CARICAN, ISLA CECHE, C-40
64°08.1W	15°55.1N	30/11/73	16°44'24	90-066	CARIBBEAN SEA, AVES I., C-20
64°08.8W	15°58.1N	18/ 1/74	20°50'22	92-221	CARIBBEAN SEA SE OF PUERTO RICO, C-15

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S199 A+B ROLL-FRAME	LOCATION AND COMMENTS
64°41.4W	16°35.6N	30/11/73	16°44'10	* 52-090	CARIBBEAN SEA, C-35
64°17.0W	16°07.0N	30/11/73	16°44'20	* 52-091	CARIBBEAN SEA, C-30
64°36.5W	16°31.7N	18/ 1/74	20°50'11	70-206	CARIBBEAN SEA, C-30
64°12.1W	16°02.6N	18/ 1/74	20°50'21	70-207	CARIBBEAN SEA, C-30
64°52.9W	16°48.4N	30/11/73	16°44'06	90-063	CARIBBEAN SEA C-40
64°38.4W	16°31.1N	30/11/73	16°44'12	90-064	CARIBBEAN SEA C-30
64°23.0W	16°12.6N	30/11/73	16°44'18	90-065	CARIBBEAN SEA C-20
64°54.9W	16°52.5N	18/ 1/74	20°50'04	92-218	CARIBBEAN SEA SE OF PUERTO RICO, C-2C
64°39.8W	16°34.5N	18/ 1/74	20°50'10	92-219	CARIBBEAN SEA SE OF PUERTO RICO, C-2C
64°24.3W	16°16.4N	18/ 1/74	20°50'16	92-220	CARIBBEAN SEA SE OF PUERTO RICO, C-2C
64°19.0W	21°32.0N	24/ 1/74	18°06'32	70-409	ATLANTIC O. NORTH OF WEST INDIES, C-25
64°45.4W	22°00.2N	24/ 1/74	18°06'22	70-408	ATLANTIC O. NORTH OF WEST INDIES, C-25
64°23.3W	26°27.0N	20/ 1/74	19°21'31	70-236	ATLANTIC O., BERMUDA TRIANGLE, C-35
64°44.0W	26°44.2N	25/ 1/74	17°22'10	▲ 76-050	ATLANTIC O., S. OF BERMUDA, C-7C
64°15.0W	26°16.5N	25/ 1/74	17°22'20	▲ 76-051	ATLANTIC O., S. OF BERMUDA, C-7C
64°42.1W	37°51.0N	8/ 1/74	16°36'14	64-123	ATLANTIC O. EAST OF VIRGINIA, C-85
64°50.0W	37°45.3N	8/ 1/74	16°36'11	89-337	ATLANTIC O. OFF NEW ENGLAND, C-8C
64°26.6W	37°56.4N	8/ 1/74	16°36'18	89-338	ATLANTIC O. OFF NEW ENGLAND, C-85
64°03.2W	38°13.6N	8/ 1/74	16°36'24	89-339	ATLANTIC O. OFF NEW ENGLAND, C-85
64°39.8W	40°32.5N	7/ 1/74	17°20'00	64-043	ATLANTIC O. EAST OF VIRGINIA, C-95
64°49.0W	40°26.0N	7/ 1/74	17°19'57	89-220	ATLANTIC O. OFF CAROLINAS, C-10C
64°23.9W	40°35.6N	7/ 1/74	17°20'03	89-221	ATLANTIC O. OFF MID-ATLANTIC STATES, C-10C
64°38.1W	42°46.5N	6/ 1/74	18°03'40	58-370	ATLANTIC O., C-90
64°36.5W	42°46.3N	6/ 1/74	18°03'40	91-370	ATLANTIC O. OFF MID-ATLANTIC STATES, C-95
64°59.2W	46°06.1N	14/ 1/74	15°31'40	70-056	NEW BRUNSWICK, NOVA SCOTIA, PRINCE EDWARD I., MONCTON, S-100
64°09.4W	46°22.5N	14/ 1/74	15°31'50	70-057	NEW BRUNSWICK, NOVA SCOTIA, PRINCE EDWARD I., NORTHUMBERLAND STRAIT
64°33.2W	46°15.2N	14/ 1/74	15°31'45	93-040	NEW BRUNSWICK, NOVA SCOTIA, PRINCE EDWARD I., MONCTON, AMHEST, S-10
64°01.9W	46°24.4N	14/ 1/74	15°31'51	93-041	NEW BRUNSWICK, NOVA SCOTIA, PRINCE EDWARD I., SUMMERSIDE, S-100
64°46.7W	48°29.5N	12/ 1/74	16°58'40	64-325	QUEBEC, NEW BRUNSWICK, CHALEUR BAY, GASPE, S-100, C-60
64°10.8W	48°35.4N	12/ 1/74	16°58'46	92-137	QUEBEC, GASPE PEN., GULF OF ST. LAWRENCE, C-90, S-100
64°14.7W	49°15.7N	11/ 1/74	17°42'10	64-246	QUEBEC, ANTICOSTI I., WEST POINT, JACQUES CARTIER PASSAGE, S-100, C-70
64°58.9W	49°13.0N	11/ 1/74	17°42'02	92-062	QUEBEC, GASPE PEN. + PASSAGE, ANTICOSTI I., ST. LAWRENCE R., C-40 S-100
64°25.3W	49°17.6N	11/ 1/74	17°42'08	92-063	QUEBEC, ANTICOSTI I., GASPE PEN. + PASSAGE, ST. LAWRENCE R., C-40 S-100
63°40.4W	43°13.6S	1/ 1/74	13°18'00	58-119	ARGENTINA, GOLFO NUEVO, PUNTA NINFAS, PEN. DE VALLEZ
63°13.7W	21°07.0S	27/ 1/74	19°20'00	76-298	BOLIVIA, ARGENTINA, PARAGUAY, RIO PILCOMAYO, SIEKINA AGUARAGUE, C-30
63°46.1W	20°05.7S	1/ 2/74	17°20'15	48-217	BOLIVIA, RIO PILCOMAYO, MONTEAGUDO, C-35
63°32.3W	20°20.2S	1/ 2/74	17°20'20	48-218	BOLIVIA, RIO PILCOMAYO, VILLA MONTES, CHARAGUA, C-35
63°18.5W	20°34.6S	1/ 2/74	17°20'25	48-219	BOLIVIA, RIO PILCOMAYO, VILLA MONTES, C-35
63°04.7W	20°49.2S	1/ 2/74	17°20'30	48-220	BOLIVIA, RIO PILCOMAYO, VILLA MONTES, C-35
63°39.4W	20°38.9S	27/ 1/74	19°19'50	76-297	BOLIVIA, RIO PILCOMAYO, VILLA MONTES, SANTA ROSA, C-30
63°43.1W	20°06.5S	1/ 2/74	17°20'16	94-409	BOLIVIA, MONTEAGUDO, C-55
63°25.3W	20°26.7S	1/ 2/74	17°20'22	94-410	BOLIVIA, CHARAGUA, C-30
63°08.1W	20°44.1S	1/ 2/74	17°20'28	94-411	BOLIVIA, RIO PILCOMAYO, C-20
63°59.9W	19°51.1S	1/ 2/74	17°20'10	48-216	BOLIVIA, RIO PILCOMAYO, PADILLA, C-35
63°45.4W	19°07.6S	15/12/73	12°31'18	89-053	BOLIVIA, CORDILLERA ORIENTAL, C-55
63°22.6W	19°21.3S	15/12/73	12°31'22	89-054	BOLIVIA, CORDILLERA ORIENTAL, C-58
63°19.8W	19°34.6S	15/12/73	12°31'26	89-055	BOLIVIA, PARAGUAY, C-10C
63°07.0W	19°48.0S	15/12/73	12°31'31	89-056	BOLIVIA, PARAGUAY, C-10C
63°59.9W	19°51.1S	1/ 2/74	17°20'10	94-408	BOLIVIA, PADILLA, C-5C
63°58.1W	18°54.6S	15/12/73	12°31'13	89-052	BOLIVIA, CORDILLERA ORIENTAL, C-5C
63°32.5W	15°22.3S	28/ 1/74	18°35'31	A4-119	BOLIVIA, LAGO CONCEPCION, C-7C
63°08.5W	15°51.1S	28/ 1/74	18°35'41	A4-120	BOLIVIA, RIO GRANDE, C-7C
63°13.7W	15°46.0S	28/ 1/74	18°35'39	93-332	BOLIVIA, LAGO CONCEPCION, RIO NEGRO, C-6C
63°57.2W	14°52.6S	28/ 1/74	18°35'21	A4-118	BOLIVIA, LAGO CONCEPCION, C-7C
63°01.5W	10°05.9S	1/12/73	17°43'52	* 52-158	BRAZIL, AMAZON BASIN, C-75
63°46.7W	9°07.9S	1/12/73	17°43'32	* 52-156	BRAZIL, AMAZON BASIN, C-75
63°24.3W	9°36.6S	1/12/73	17°43'42	* 52-157	BRAZIL, AMAZON BASIN, C-75
63°51.3W	9°03.2S	1/12/73	17°43'30	90-128	BRAZIL, RIO MADEIRA, PORTO VELHO C-5C
63°37.5W	9°21.2S	1/12/73	17°43'36	90-129	BRAZIL C-96
63°23.3W	9°36.3S	1/12/73	17°43'42	90-130	BRAZIL C-99
63°09.5W	9°57.2S	1/12/73	17°43'48	90-131	BRAZIL C-99
63°03.2W	3°53.1S	30/ 1/74	17°06'39	A4-263	BRAZIL, RIO AMAZON, C-6C
63°29.2W	3°12.5S	7/12/73	14°59'19	91-145	BRAZIL, C-97
63°14.4W	3°32.6S	7/12/73	14°59'25	91-146	BRAZIL, AMAZON R., C-90
63°00.6W	3°51.1S	7/12/73	14°59'32	91-147	BRAZIL, AMAZON R., C-8C
63°57.2W	2°35.6S	7/12/73	14°59'06	91-143	BRAZIL, RIO JUA, C-96
63°43.4W	2°54.3S	7/12/73	14°59'12	91-144	BRAZIL, C-97
63°06.8W	2°30.5N	31/ 1/74	16°22'00	A4-399	BRAZIL, SERRA CURUPAIRA, C-85
63°13.6W	2°45.7N	21/ 1/74	20°20'20	* 54-432	BRAZIL, VENEZUELA, RIO URARICOERA, RIO MCAJAI, C-35
63°47.7W	3°34.5N	31/ 1/74	16°21'40	A4-397	VENEZUELA, BRAZIL, SERRA PARIMA, C-93

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
63°25.6W	3°C3.6N	31/ 1/74	16°21'50	A4-398	VENEZUELA, BRAZIL, SERRA PARIMA, C-5C
63°58.7W	3°45.7N	21/ 1/74	20°20'00	* 64-430	VENEZUELA, BRAZIL, SERRA PARIMA, RIO PARIMA, C-50
63°36.1W	3°15.6N	21/ 1/74	20°20'10	* 64-431	BRAZIL, VENEZUELA, RIO URUKICOERA, SERRA PARIMA, C-50
63°00.9W	9°53.1N	22/ 1/74	19°35'28	70-308	VENEZUELA, MATORIN, GULF OF PARIA, CANO MANAMO, C-40
63°02.5W	9°54.1N	22/ 1/74	19°35'27	93-188	VENEZUELA, RIO MANAMO, C-80
63°27.9W	10°22.6N	22/ 1/74	19°35'18	70-307	VENEZUELA, PEN. DE ARAYA, CUMUNA MATLRIN, RIO SAN JUAN, C-35
63°40.4W	10°31.5N	22/ 1/74	19°35'15	93-186	VENEZUELA, MATORIN, RIO SAN JUAN, CASANAY, C-50
63°19.0W	10°13.6N	22/ 1/74	19°35'21	93-187	VENEZUELA, MATORIN, RIO SAN JUAN, C-55
63°53.0W	15°36.3N	30/11/73	16°44'30	* 52-092	CARIBBEAN SEA, C-20
63°28.6W	15°05.2N	30/11/73	16°44'40	* 52-093	CARIBBEAN SEA, C-20
63°53.0W	15°37.2N	30/11/73	16°44'30	90-067	CARIBBEAN SEA, AVES I. C-15
63°37.5W	15°18.6N	30/11/73	16°44'37	90-068	CARIBBEAN SEA, AVES I. C-10
63°22.6W	15°00.8N	30/11/73	16°44'43	90-069	CARIBBEAN SEA C-10
63°51.6W	15°37.5N	18/ 1/74	20°50'30	92-222	CARIBBEAN SEA SE OF PUERTO RICO, C-15
63°35.8W	15°18.6N	18/ 1/74	20°50'36	92-223	CARIBBEAN SEA SE OF PUERTO RICO, C-15
63°31.5W	15°13.5N	18/ 1/74	20°50'38	92-224	CARIBBEAN SEA SE OF PUERTO RICO, C-15
63°27.3W	20°35.6N	24/ 1/74	18°06'52	70-411	ATLANTIC O. NORTH OF WEST INDIES, C-30
63°01.5W	20°07.2N	24/ 1/74	18°07'02	70-412	ATLANTIC O. NORTH OF WEST INDIES, C-30
63°53.0W	21°03.6N	24/ 1/74	18°06'42	70-410	ATLANTIC O. NORTH OF WEST INDIES, C-25
63°26.9W	25°32.4N	20/ 1/74	19°21'51	70-237	ATLANTIC O., BERMUDA TRIANGLE, C-45
63°47.0W	25°45.7N	25/ 1/74	17°22'30	▲ 76-052	ATLANTIC O., S. OF BERMUDA, C-7C
63°24.9W	25°28.2N	25/ 1/74	17°22'38	▲ 76-053	ATLANTIC O., S. OF BERMUDA, C-7C
63°27.3W	38°35.5N	8/ 1/74	16°36'34	64-124	ATLANTIC O. EAST OF DELAWARE, C-5C
63°39.8W	38°27.5N	8/ 1/74	16°36'30	89-340	ATLANTIC O. OFF NEW ENGLAND, C-5C
63°15.4W	38°41.6N	8/ 1/74	16°36'36	89-341	ATLANTIC O. OFF NEW ENGLAND, C-55
63°58.9W	40°53.3N	7/ 1/74	17°20'10	64-044	ATLANTIC O. EAST OF NEW JERSEY, C-58
63°58.6W	40°52.6N	7/ 1/74	17°20'10	89-222	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
63°18.0W	41°13.5N	7/ 1/74	17°20'20	64-045	ATLANTIC O. EAST OF NEW JERSEY, C-58
63°32.9W	41°05.5N	7/ 1/74	17°20'16	89-223	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
63°07.1W	41°18.4N	7/ 1/74	17°20'22	89-224	ATLANTIC O. OFF MID-ATLANTIC STATES, C-100
63°10.4W	43°25.4N	6/ 1/74	18°04'00	58-371	ATLANTIC O., C-80
63°05.8W	43°26.4N	6/ 1/74	18°04'01	91-371	ATLANTIC O. OFF MID-ATLANTIC STATES, C-65
63°20.3W	46°36.5N	14/ 1/74	15°32'00	70-058	PRINCE EDWARD I., CHARLOTTETOWN, ICE FLOCK, S-100, C-15
63°31.9W	46°32.5N	14/ 1/74	15°31'57	93-042	NEW BRUNSWICK, PRINCE EDWARD I., CHARLOTTE TOWN, SUPERSIDE S.
63°01.9W	46°41.4N	14/ 1/74	15°32'03	93-043	PRINCE EDWARD I., CHARLOTTE TOWN, S-100, C-20
63°52.6W	48°39.3N	12/ 1/74	16°58'50	64-326	QUEBEC, GASPE, GULF OF ST. LAWRENCE, ANTICOSTI I., S-100, C-80
63°37.3W	48°41.2N	12/ 1/74	16°58'52	92-138	QUEBEC, ANTICOSTI I., GULF OF ST. LAWRENCE, C-70, S-100
63°03.5W	48°46.5N	12/ 1/74	16°58'58	92-139	QUEBEC, ANTICOSTI I., GULF OF ST. LAWRENCE, C-50, S-100
63°19.0W	45°26.6N	11/ 1/74	17°42'20	64-247	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, C-65, S-100
63°29.5W	49°55.6N	27/ 1/74	12°37'53	76-143	QUEBEC, C-100
63°50.3W	45°22.6N	11/ 1/74	17°42'14	92-064	QUEBEC, ANTICOSTI I., ST. LAWRENCE R., GASPE PASSAGE, C-30, S-100
63°11.8W	49°26.8N	11/ 1/74	17°42'21	92-065	QUEBEC, ANTICOSTI I., JACQUES CARTIER + GASPE PASSAGE, C-40, S-100
63°27.6W	50°00.4N	27/ 1/74	12°37'53	93-241	QUEBEC, C-100
62°56.9W	42°55.2S	1/ 1/74	13°18'10	58-120	ARGENTINA, PEN. DE VALDEZ
62°13.9W	42°36.4S	1/ 1/74	13°18'20	58-121	ATLANTIC O. EAST OF ARGENTINA
62°00.6W	27°09.1S	26/ 1/74	20°04'40	▲ 76-132	ARGENTINA, OJIMULI, CHARATA
62°49.7W	23°55.5S	26/12/73	17°41'08	89-125	ARGENTINA, C-90
62°39.8W	23°45.4S	26/12/73	17°41'11	89-126	ARGENTINA, RIO HERMEJO, C-53
62°29.9W	23°35.2S	26/12/73	17°41'14	89-127	ARGENTINA, RIO HERMEJO, C-95
62°20.3W	23°25.6S	26/12/73	17°41'18	89-128	ARGENTINA, C-96
62°10.5W	23°14.7S	26/12/73	17°41'21	89-129	ARGENTINA, C-96
62°00.9W	23°04.5S	26/12/73	17°41'24	89-130	ARGENTINA, C-98
62°21.3W	22°03.2S	27/ 1/74	19°20'20	76-300	BOLIVIA, ARGENTINA, PARAGUAY, RIO PILCOMAYO, SANTA MARIA, C-30
62°11.5W	22°14.8S	27/ 1/74	19°20'24	94-049	ARGENTINA, PARAGUAY, RIO PILCOMAYO, FORTIN GUACHALLA, C-15
62°50.9W	21°03.5S	1/ 2/74	17°20'35	48-221	BOLIVIA, PARAGUAY, ARGENTINA, RIO PILCOMAYO, C-35
62°35.8W	21°18.4S	1/ 2/74	17°20'40	48-222	BOLIVIA, PARAGUAY, ARGENTINA, RIO PILCOMAYO, C-35
62°20.6W	21°33.0S	1/ 2/74	17°20'45	48-223	PARAGUAY, ARGENTINA, CHACO BOREAL, C-30
62°05.5W	21°47.5S	1/ 2/74	17°20'50	43-224	PARAGUAY, CHACO BOREAL, C-30
62°47.7W	21°35.2S	27/ 1/74	19°20'10	76-299	BOLIVIA, ARGENTINA, PARAGUAY, RIO PILCOMAYO, C-35
62°29.2W	21°56.0S	27/ 1/74	19°20'17	94-048	BOLIVIA, PARAGUAY, ARGENTINA, RIO PILCOMAYO, C-15
62°50.0W	21°02.4S	1/ 2/74	17°20'34	94-412	BOLIVIA, RIO PILCOMAYO, C-20
62°32.2W	21°20.0S	1/ 2/74	17°20'41	94-413	BOLIVIA, PARAGUAY, RIO PILCOMAYO, C-20
62°14.7W	21°37.7S	1/ 2/74	17°20'47	94-414	BOLIVIA, PARAGUAY, CANADA ORURU, C-20
62°54.2W	20°01.4S	15/12/73	12°31'35	89-057	BOLIVIA, PARAGUAY, C-100
62°41.4W	20°14.7S	15/12/73	12°31'40	89-058	BOLIVIA, PARAGUAY ARGENTINA, C-100
62°28.6W	20°28.1S	15/12/73	12°31'44	89-059	BOLIVIA, PARAGUAY ARGENTINA, C-100
62°15.9W	20°41.4S	15/12/73	12°31'48	89-060	BOLIVIA, PARAGUAY ARGENTINA, C-100
62°03.1W	20°54.8S	15/12/73	12°31'53	89-061	BOLIVIA, PARAGUAY ARGENTINA, C-100
62°08.0W	17°07.0S	25/11/73	19°11'39	* 52-023	BOLIVIA, BRAZIL, RIO MAMORE, TRINIDAD, C-18
62°16.1W	17°03.0S	29/11/73	19°11'37	89-021	BOLIVIA, BRAZIL, TRINIDAD, RIO MAMORE
62°44.1W	16°20.0S	28/ 1/74	18°35'51	A4-121	BOLIVIA, RIO GRANDE, POCITAS, C-7C

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
62°20.0N	16°48.6S	28/ 1/74	18°36'01	A4-122	BOLIVIA, RIO GRANDE, POCITAS, C-75
62°38.8W	16°37.9S	29/11/73	19°11'29	* 52-022	BOLIVIA, BRAZIL, TRINIDAD, RIO MAMORE, C-25
62°57.9W	16°04.5S	28/ 1/74	18°35'45	93-333	BOLIVIA, RIO NEGRO, SERRANIA DE SAN SIMON, C-60
62°43.1W	16°22.4S	28/ 1/74	18°35'51	93-334	BOLIVIA, RIO NEGRO, C-60
62°27.6W	16°40.7S	28/ 1/74	18°35'58	93-335	BOLIVIA, SANTA ROSA, C-55
62°12.4W	16°58.7S	28/ 1/74	18°36'04	93-336	BOLIVIA, RIO SANTA BARBARA, C-5C
62°54.3W	10°16.4S	1/12/73	17°43'55	90-132	BRAZIL C-98
62°01.6W	5°05.1S	7/12/73	14°59'57	91-151	BRAZIL, C-90
62°19.4W	4°53.1S	30/ 1/74	17°06'59	A4-264	BRAZIL, RIO AMAZON, LAGO COARI, C-55
62°46.4W	4°05.5S	7/12/73	14°59'38	91-148	BRAZIL, AMAZON R., C-80
62°32.5W	4°27.7S	7/12/73	14°59'44	91-149	BRAZIL, LAGO AIAPUA, C-50
62°18.0W	4°47.6S	7/12/73	14°59'51	91-150	BRAZIL, LAGO AIAPUA, C-55
62°21.0W	1°34.1N	31/ 1/74	16°22'20	A4-401	BRAZIL, RIO DEMINI, C-50
62°28.4W	1°45.7N	21/ 1/74	20°20'40	* 54-434	BRAZIL, RIO PACU, RIO DEMINI, PICO TABATINGA, C-30
62°05.8W	1°15.6N	21/ 1/74	20°20'50	* 64-435	BRAZIL, RIO BRANCO, RIO CATIRAMANI, RIO AGUA BOA DO UNIVINI, C-35
62°38.5W	2°05.4N	31/ 1/74	16°22'10	A4-400	BRAZIL, SERRAS DO DEMINI, C-85
62°51.0W	2°15.6N	21/ 1/74	20°20'30	* 54-433	BRAZIL, VENEZUELA, RIO DEMINI, RIO LAGO ALAMADA, C-35
62°07.5W	8°53.6N	22/ 1/74	19°35'48	70-310	VENEZUELA, SAN FELIX, RIO ORINOCO, C-80
62°12.8W	8°56.4N	22/ 1/74	19°35'46	93-191	VENEZUELA, RIO GRANDE (ORINOCO), C-85
62°37.8W	9°23.6N	22/ 1/74	19°35'38	70-309	VENEZUELA, SAN FELIX, RIO URINOCO, CANC MANAMO, C-50
62°48.7W	9°35.5N	22/ 1/74	19°35'34	93-189	VENEZUELA, MOUTH OF THE ORINOCO, C-5C
62°32.2W	9°16.5N	22/ 1/74	19°35'40	93-190	VENEZUELA, MOUTH OF THE ORINOCO, C-5C
62°35.8W	19°38.5N	24/ 1/74	18°07'12	70-413	ATLANTIC O. NORTH OF WEST INDIES, C-35
62°52.3W	38°55.0N	8/ 1/74	16°36'43	89-342	ATLANTIC O. OFF NEW ENGLAND, C-58
62°10.8W	39°15.5N	8/ 1/74	16°36'54	64-125	ATLANTIC O. EAST OF NEW JERSEY, C-50
62°27.6W	39°09.0N	8/ 1/74	16°36'49	39-343	ATLANTIC O. OFF NEW ENGLAND, C-58
62°04.5W	39°22.0N	8/ 1/74	16°36'55	89-344	ATLANTIC O. OFF NEW ENGLAND, C-58
62°00.0W	39°00.0N	14/ 1/74	13°57'52	93-001	OBlique STORM, ATLANTIC O. OFF NEW ENGLAND
62°36.8W	41°33.0N	7/ 1/74	17°20'30	64-046	ATLANTIC O. EAST OF NEW ENGLAND C-50
62°40.5W	41°31.2N	7/ 1/74	17°20'29	89-225	ATLANTIC O. OFF MID-ATLANTIC STATES, C-98
62°14.7W	41°43.6N	7/ 1/74	17°20'35	89-226	ATLANTIC O. OFF NEW ENGLAND, C-50
62°30.9W	46°50.6N	14/ 1/74	15°32'10	70-059	PRINCE EDWARD I., CHARLOTTETOWN, ICE FLOWS, S-100, C-30
62°30.2W	46°50.1N	14/ 1/74	15°32'10	93-044	PRINCE EDWARD I., EAST POINT, ICE FLOWS, S-100, C-60
62°00.6W	46°57.7N	14/ 1/74	15°32'16	93-045	PRINCE EDWARD I., EAST POINT, ICE FLOWS, MAGDALEN IS., S-100, C-80
62°58.3W	48°48.6N	12/ 1/74	16°59'00	64-327	QUEBEC, GASPE, GULF OF ST. LAWRENCE, ANTICOSTI I., S-100, C-60
62°03.9W	48°57.5N	12/ 1/74	16°59'10	64-328	QUEBEC, GASPE, GULF OF ST. LAWRENCE, ANTICOSTI I., S-100, C-40
62°29.9W	48°52.5N	12/ 1/74	16°59'05	92-140	QUEBEC, ANTICOSTI I., HEATH POINT, GULF OF ST. LAWRENCE, C-50, S-100
62°24.6W	49°33.1N	11/ 1/74	17°42'30	64-248	QUEBEC, ANTICOSTI I., OLD POST POINT, C-60, S-100
62°32.5W	49°57.8N	27/ 1/74	12°38'03	76-144	QUEBEC, C-100
62°34.9W	49°31.3N	11/ 1/74	17°42'27	92-066	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, C-50, S-100
62°02.6W	49°34.6N	11/ 1/74	17°42'33	92-067	QUEBEC, ANTICOSTI I., JACQUES CARTIER PASSAGE, ICE FLOWS, C-50, S-100
62°52.3W	45°58.3N	27/ 1/74	12°37'59	93-242	QUEBEC, C-100
62°17.1W	49°56.0N	27/ 1/74	12°38'05	93-243	QUEBEC, C-100
61°31.2W	42°17.3S	1/ 1/74	13°18'30	58-122	ATLANTIC O. EAST OF ARGENTINA
61°01.5W	28°02.3S	26/ 1/74	20°05'00	▲ 76-133	ARGENTINA, VILLA ANGELA, SANTA SYLVIA, C-25
61°01.3W	23°27.4S	27/ 1/74	19°20'51	76-303	PARAGUAY, ARGENTINA, RIO PILCOMAYO, FORTIN PILCOMAYO, C-30
61°21.4W	23°07.3S	27/ 1/74	19°20'43	94-052	ARGENTINA, PARAGUAY, RIO PILCOMAYO, GRAN CHACO, C-20
61°04.2W	23°25.1S	27/ 1/74	19°20'49	94-053	ARGENTINA, PARAGUAY, RIO PILCOMAYO, GRAN CHACO, C-20
61°50.3W	22°02.1S	1/ 2/74	17°20'55	48-225	PARAGUAY, CHACO BOREAL, C-30
61°20.0W	22°31.2S	1/ 2/74	17°21'05	48-226	PARAGUAY, CHACO BOREAL, C-35
61°04.9W	22°45.8S	1/ 2/74	17°21'10	48-227	PARAGUAY, ARGENTINA, CHACO BOREAL, C-40
61°55.0W	22°31.2S	27/ 1/74	19°20'30	76-301	BOLIVIA, ARGENTINA, PARAGUAY, RIO PILCOMAYO, C-25
61°27.9W	22°55.6S	27/ 1/74	19°20'41	76-302	PARAGUAY, ARGENTINA, RIO PILCOMAYO, C-25
61°51.3W	22°54.8S	26/12/73	17°41'28	89-131	ARGENTINA, PARAGUAY, C-56
61°42.1W	22°44.8S	26/12/73	17°41'31	89-132	ARGENTINA, PARAGUAY, C-57
61°31.9W	22°34.4S	26/12/73	17°41'35	89-133	ARGENTINA, PARAGUAY, C-58
61°22.7W	22°24.5S	26/12/73	17°41'38	89-134	ARGENTINA, PARAGUAY, C-59
61°13.4W	22°14.5S	26/12/73	17°41'41	89-135	ARGENTINA, PARAGUAY, C-100
61°03.9W	22°04.5S	26/12/73	17°41'45	89-136	ARGENTINA, PARAGUAY, C-100
61°55.0W	22°32.4S	27/ 1/74	19°20'30	94-050	ARGENTINA, PARAGUAY, RIO PILCOMAYO, C-15
61°38.2W	22°50.0S	27/ 1/74	19°20'37	94-051	ARGENTINA, PARAGUAY, RIO PILCOMAYO, GRAN CHACO, C-20
61°38.2W	22°13.8S	1/ 2/74	17°20'59	94-416	PARAGUAY, GRAN CHACO, C-25
61°20.0W	22°31.2S	1/ 2/74	17°21'05	94-417	PARAGUAY, GRAN CHACO, C-30
61°01.8W	22°48.6S	1/ 2/74	17°21'11	94-418	PARAGUAY, GRAN CHACO, C-20
61°50.3W	21°08.1S	15/12/73	12°31'57	89-062	BOLIVIA, PARAGUAY ARGENTINA, C-58
61°37.5W	21°21.5S	15/12/73	12°32'01	89-063	BOLIVIA, PARAGUAY ARGENTINA, C-59
61°24.7W	21°34.6S	15/12/73	12°32'06	89-064	BOLIVIA, PARAGUAY ARGENTINA, C-56
61°11.9W	21°48.2S	15/12/73	12°32'10	89-065	PARAGUAY, ARGENTINA, C-100
61°56.3W	21°55.8S	1/ 2/74	17°20'53	94-415	PARAGUAY, GRAN CHACO, C-25
61°04.9W	18°15.0S	28/ 1/74	18°36'31	A4-125	BOLIVIA, RIO SAN RAFAEL, SERRANIA, SANTIAGO, C-75
61°12.5W	18°06.6S	29/11/73	19°11'59	* 52-025	BOLIVIA, BRAZIL, LAGUNA CONCEPCION, C-10
61°01.9W	18°18.6S	29/11/73	19°12'03	89-025	BOLIVIA, BRAZIL, SERRANIA DE SANTIAGO, LAGUNA CONCEPCION
61°09.8W	18°10.0S	28/ 1/74	18°36'29	93-340	BOLIVIA, SERRANIA DE SANTIAGO, ROBORE, BOLIVIA-BRAZIL RR, C-40

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
61°55.3W	17°17.5S	28/ 1/74	18°36'11	A4-123	BOLIVIA, RIO GRANDE, C-75
61°29.6W	17°46.0S	28/ 1/74	18°36'21	A4-124	BOLIVIA, LAGUNA CONCEPCION, C-75
61°41.5W	17°37.2S	29/11/73	19°11'49	* 52-024	BOLIVIA, BRAZIL, RIO MAMORE, RIO SAN MIGUEL, C-15
61°57.9W	17°21.8S	29/11/73	19°11'43	89-022	BOLIVIA, BRAZIL, TRINIDAD, RIO MAMORE
61°39.8W	17°40.4S	29/11/73	19°11'49	89-023	BOLIVIA, BRAZIL, RIO MAMORE, RIO SAN MIGUEL C-15
61°21.7W	17°58.8S	29/11/73	19°11'56	89-024	BOLIVIA, BRAZIL, LAGUNA CONCEPCION AREA C-10
61°57.3W	17°16.5S	28/ 1/74	18°36'10	93-337	BOLIVIA, BOLIVIA, BRAZIL RR, C-40
61°41.8W	17°33.8S	28/ 1/74	18°36'16	93-338	BOLIVIA, BOLIVIA, BRAZIL RR, SAN JOSE, C-40
61°25.3W	17°51.4S	28/ 1/74	18°36'23	93-339	BOLIVIA, SERRANIA DE SANTIAGO, BOLIVIA-BRAZIL RR, SAN JOSE, C-40
61°20.0W	6°03.5S	7/12/73	15°00'16	91-154	BRAZIL, RIO MADEIRA, MANICORE, C-75
61°07.2W	6°21.3S	7/12/73	15°00'22	91-155	BRAZIL, RIO MANICORE, C-75
61°33.9W	5°52.5S	30/ 1/74	17°07'19	A4-265	BRAZIL, RIO PURAS, C-60
61°47.1W	5°28.0S	7/12/73	15°00'03	91-152	BRAZIL, RIO MADEIRA, C-80
61°33.9W	5°45.8S	7/12/73	15°00'10	91-153	BRAZIL, RIO MADEIRA, MANICORE, C-70
61°33.9W	0°35.7N	31/ 1/74	16°22'40	A4-403	BRAZIL, C-100
61°11.1W	0°05.4N	31/ 1/74	16°22'50	A4-404	BRAZIL, C-100
61°43.2W	0°45.0N	21/ 1/74	20°21'00	* 64-436	BRAZIL, RIO BRANCO, RIO CATRIMANI, C-25
61°20.6W	0°15.0N	21/ 1/74	20°21'10	* 64-437	BRAZIL, RIO BRANCO, RIO AGUA BOA DO UNIVINI, C-50
61°56.0W	1°05.4N	31/ 1/74	16°22'30	A4-402	BRAZIL, RIO ARAGA, C-56
61°12.8W	7°54.4N	22/ 1/74	19°36'08	70-312	VENEZUELA, SERRANIA DE IMATACA, C-85
61°03.9W	7°43.7N	22/ 1/74	19°36'11	93-195	VENEZUELA, SERRANIA DE IMATACA, C-80
61°40.1W	8°24.1N	22/ 1/74	19°35'53	70-311	VENEZUELA, SAN FELIX, C-50
61°55.3W	8°39.3N	22/ 1/74	19°35'52	93-192	VENEZUELA, SERRANIA DE IMATACA, C-85
61°38.2W	8°20.8N	22/ 1/74	19°35'59	93-193	VENEZUELA, SERRANIA DE IMATACA, C-80
61°21.4W	8°02.5N	22/ 1/74	19°36'05	93-194	VENEZUELA, SERRANIA DE IMATACA, C-80
61°03.2W	23°04.5N	25/ 1/74	17°23'30	▲ 76-054	ATLANTIC O., C-60
61°40.5W	39°35.4N	8/ 1/74	16°37'01	89-345	ATLANTIC O. OFF NEW ENGLAND, C-55
61°15.1W	39°49.0N	8/ 1/74	16°37'08	89-346	ATLANTIC O. OFF NOVA SCOTIA, C-55
61°54.6W	41°53.8N	7/ 1/74	17°20'40	64-047	ATLANTIC O. EAST OF NEW ENGLAND C-50
61°49.0W	41°55.6N	7/ 1/74	17°20'41	89-227	ATLANTIC O. OFF NEW ENGLAND, C-55
61°12.8W	42°13.4N	7/ 1/74	17°20'50	64-048	ATLANTIC O. EAST OF NEW ENGLAND C-57
61°22.7W	42°08.0N	7/ 1/74	17°20'47	89-228	ATLANTIC O. OFF NEW ENGLAND, C-50
61°41.1W	44°01.3N	6/ 1/74	18°04'20	58-372	ATLANTIC O. OFF VA., C-50
61°41.8W	44°00.3N	6/ 1/74	18°04'19	91-372	ATLANTIC O. OFF MID-ATLANTIC STATES, C-60
61°45.4W	47°02.1N	14/ 1/74	15°32'20	70-060	PRINCE EDWARD I., CAPE BRETON I., MAGDALEN IS., ST. LAWRENCE GULF
61°33.2W	47°04.4N	14/ 1/74	15°32'22	93-046	NOVA SCOTIA, GULF OF ST. LAWRENCE, MAGDALEN IS., S-100, C-80
61°01.9W	47°12.3N	14/ 1/74	15°32'29	93-047	CAPE BRETON I., MAGDALEN IS., GULF OF ST. LAWRENCE, N. CAPE, S-100
61°56.6W	48°58.0N	12/ 1/74	16°59'11	92-141	QUEBEC, ANTICOSTI I., COMORANT POINT, GULF OF ST. LAWRENCE, C-60, S-100
61°23.0W	49°35.8N	11/ 1/74	17°42'40	54-249	QUEBEC, OLD POST POINT, GULF OF ST. LAWRENCE, C-55, S-100
61°09.5W	49°05.5N	12/ 1/74	16°59'20	64-329	QUEBEC, ANTICOSTI I., GULF OF ST. LAWRENCE, S-100, C-35
61°35.5W	49°53.8N	27/ 1/74	12°38'13	76-145	QUEBEC, C-100
61°30.6W	49°38.1N	11/ 1/74	17°42'39	92-068	GULF OF ST. LAWRENCE, ICE FLOWS, C-40
61°19.4W	49°03.6N	12/ 1/74	16°59'18	92-142	QUEBEC, ANTICOSTI I., HEATH POINT, GULF OF ST. LAWRENCE, C-70, S-100
61°41.1W	49°53.5N	27/ 1/74	12°38'12	93-244	QUEBEC, C-100
61°05.9W	49°50.5N	27/ 1/74	12°38'13	93-245	QUEBEC, C-100
60°49.1W	41°57.8S	1/ 1/74	13°18'40	58-123	ATLANTIC O. EAST OF ARGENTINA C-20
60°07.2W	41°38.2S	1/ 1/74	13°18'50	58-124	ATLANTIC O. EAST OF ARGENTINA C-35
60°02.4W	28°55.4S	26/ 1/74	20°05'20	▲ 76-134	ARGENTINA, RIO PARANA, RECONQUISTA, GOYA, C-40
60°06.9W	24°22.6S	27/ 1/74	19°21'10	76-305	PARAGUAY, ARGENTINA, RIO PILCOMAYO, RIO CONFUSO, PUZO DEL TIGRE, C-30
60°13.8W	24°16.7S	27/ 1/74	19°21'08	94-056	ARGENTINA, PARAGUAY, FORTIN LUGONES, RIO PILCOMAYO, C-20
60°44.3W	23°05.0S	1/ 2/74	17°21'15	48-228	PARAGUAY, ARGENTINA, CHACO BOREAL, C-40
60°23.7W	23°24.1S	1/ 2/74	17°21'20	48-229	PARAGUAY, ARGENTINA, CHACO BOREAL, C-40
60°03.1W	23°43.3S	1/ 2/74	17°21'25	48-230	PARAGUAY, ARGENTINA, CHACO BOREAL, RIO MONTE LINUC, S-40
60°34.2W	23°55.1S	27/ 1/74	19°21'00	76-304	PARAGUAY, ARGENTINA, RIO PILCOMAYO, RIO CONFUSO, LAS LOMITAS, C-30
60°47.1W	23°42.6S	27/ 1/74	19°20'56	94-054	ARGENTINA, PARAGUAY, RIO PILCOMAYO, FORTIN PILCOMAYO, C-20
60°30.6W	23°56.6S	27/ 1/74	19°21'02	94-055	ARGENTINA, PARAGUAY, LAGUNA LA BELLA, RIO PILCOMAYO, C-20
60°59.1W	22°01.6S	15/12/73	12°32'15	89-066	PARAGUAY, ARGENTINA, C-100
60°46.4W	22°14.5S	15/12/73	12°32'19	89-067	PARAGUAY, ARGENTINA, C-100
60°33.6W	22°28.2S	15/12/73	12°32'23	89-068	PARAGUAY, ARGENTINA, C-100
60°20.8W	22°41.2S	15/12/73	12°32'28	89-069	PARAGUAY, ARGENTINA, C-100
60°08.0W	22°55.0S	15/12/73	12°32'32	89-070	PARAGUAY, ARGENTINA, C-100
60°54.3W	21°54.3S	26/12/73	17°41'48	89-137	ARGENTINA, PARAGUAY, C-100
60°44.8W	21°43.5S	26/12/73	17°41'51	89-138	ARGENTINA, PARAGUAY, C-58
60°35.9W	21°34.4S	26/12/73	17°41'55	89-139	ARGENTINA, PARAGUAY, C-56
60°26.3W	21°24.0S	26/12/73	17°41'58	89-140	PARAGUAY, GRAN CHACO, C-94
60°16.8W	21°13.6S	26/12/73	17°42'01	89-141	PARAGUAY, GRAN CHACO, C-93
60°06.9W	21°03.1S	26/12/73	17°42'05	89-142	PARAGUAY, GRAN CHACO, C-97
60°15.1W	19°12.3S	28/ 1/74	18°36'51	A4-127	BOLIVIA, SERRANIA, SANTIAGO, C-70
60°14.1W	19°05.6S	29/11/73	19°12'19	* 52-027	PARAGUAY, BOLIVIA, BRAZIL, RIO PARAGUAI, SERRANIA DE SANTIAGO
60°07.2W	19°13.5S	29/11/73	19°12'21	89-028	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
60°23.0W	19°04.8S	28/ 1/74	18°36'48	93-343	BOLIVIA, CHACO BOREAL, C-40
60°07.2W	19°22.4S	28/ 1/74	18°36'54	93-344	PARAGUAY, BOLIVIA, CHACO BOREAL, C-40

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
60°40.5W	18°44.5S	28/ 1/74	18°36'41	A4-126	BOLIVIA, SERRIANA, SANTIAGO, RIO SAN RAFAEL, C-75
60°43.5W	18°36.4S	25/11/73	19°12'09	* 52-026	BOLIVIA, BRAZIL, SERRANIA DE SANTIAGO, LAGUNA CONCEPCION
60°43.5W	18°37.4S	29/11/73	19°12'09	89-026	BOLIVIA, BRAZIL, PARAGUAY, RIO PARAGUAI
60°25.7W	18°55.4S	25/11/73	19°12'15	89-027	BOLIVIA, BRAZIL, PARAGUAY, RIO PARAGUAI
60°54.3W	18°28.5S	28/ 1/74	18°36'35	93-341	BOLIVIA, CHACO BOREAL, C-40
60°39.2W	18°46.5S	28/ 1/74	18°36'41	93-342	BOLIVIA, CHACO BOREAL, C-40
60°03.6W	7°51.1S	30/ 1/74	17°07'59	A4-267	BRAZIL, RIO ARIPUANA, C-50
60°23.0W	7°19.1S	7/12/73	15°00'42	91-158	BRAZIL, RIO ARIPUANA, C-45
60°08.8W	7°37.4S	7/12/73	15°00'48	91-159	BRAZIL, RIO ARIPUANA, C-45
60°48.7W	6°52.1S	30/ 1/74	17°07'39	A4-266	BRAZIL, RIO MADEIRA, MANICORE, C-55
60°53.7W	6°39.2S	7/12/73	15°00'29	91-156	BRAZIL, RIO ARIPUANA, C-70
60°38.5W	6°56.7S	7/12/73	15°00'35	91-157	BRAZIL, RIO ARIPUANA, C-65
60°04.1W	1°23.7S	31/ 1/74	16°23'20	A4-407	BRAZIL, C-100
60°12.9W	1°15.6S	21/ 1/74	20°21'40	* 64-440	BRAZIL, RIO UATUMA, C-95
60°48.8W	0°24.3S	31/ 1/74	16°23'00	A4-405	BRAZIL, C-100
60°26.4W	0°54.0S	31/ 1/74	16°23'10	A4-406	BRAZIL, C-100
60°58.0W	0°15.0S	21/ 1/74	20°21'20	* 64-438	BRAZIL, RIO ALALAU, C-90
60°35.5W	0°45.0S	21/ 1/74	20°21'30	* 64-439	BRAZIL, RIO UATUMA, C-95
60°18.4W	6°55.1N	22/ 1/74	19°36'28	70-314	VENEZUELA, GUYANA, RIO CUYANI, KAMARANG R., C-70
60°45.8W	7°24.8N	22/ 1/74	19°36'18	70-313	VENEZUELA, GUYANA, RIO CUYANI, C-6C
60°47.1W	7°25.3N	22/ 1/74	19°36'17	93-196	VENEZUELA, SERRANIA DE MATACA, C-80
60°29.9W	7°06.5N	22/ 1/74	19°36'24	93-197	VENEZUELA, GUYANA, RIO CUYUNI, C-15
60°45.9W	17°33.2N	24/ 1/74	18°07'56	70-414	ATLANTIC O. NORTH OF WEST INDIES, C-30
60°29.0W	37°31.8N	5/ 1/74	15°53'33	64-155	ATLANTIC O. NORTH OF BERMUDA, C-8C
60°52.4W	40°02.4N	8/ 1/74	16°37'14	64-126	ATLANTIC O. EAST OF NEW JERSEY, C-55
60°50.4W	40°02.4N	8/ 1/74	16°37'14	89-347	ATLANTIC O. OFF NOVA SCOTIA, C-5C
60°25.3W	40°15.7N	8/ 1/74	16°37'20	89-348	ATLANTIC O. OFF NOVA SCOTIA, C-58
60°00.3W	40°28.5N	8/ 1/74	16°37'26	89-349	ATLANTIC O. OFF NOVA SCOTIA, C-55
60°27.3W	42°33.5N	7/ 1/74	17°21'00	64-049	ATLANTIC O. EAST OF NEW ENGLAND C-56
60°55.6W	42°20.2N	7/ 1/74	17°20'53	89-229	ATLANTIC O. OFF NEW ENGLAND, C-55
60°27.0W	42°32.8N	7/ 1/74	17°21'00	89-230	ATLANTIC O. OFF NEW ENGLAND, C-58
60°00.6W	42°44.5N	7/ 1/74	17°21'06	89-231	ATLANTIC O. OFF NEW ENGLAND, C-10C
60°09.8W	44°35.8N	6/ 1/74	18°04'40	58-373	ATLANTIC O. OFF VA., C-55
60°30.9W	44°27.2N	6/ 1/74	18°04'35	91-373	ATLANTIC O. OFF MID-ATLANTIC STATES, C-95
60°00.9W	44°38.3N	6/ 1/74	18°04'41	91-374	ATLANTIC O. OFF MID-ATLANTIC STATES, C-95
60°56.0W	47°14.6N	14/ 1/74	15°32'30	70-061	CAPE BRETON I., MAGDALEN IS., GULF OF ST. LAWRENCE, S-100, C-75
60°01.9W	47°28.3N	14/ 1/74	15°32'40	70-062	CAPE BRETON I., NEWFOUNDLAND, CABOT STRAIT, CAPE RAY, S-107, C-80
60°23.3W	47°22.7N	14/ 1/74	15°32'35	93-048	CAPE BRETON I., N. CAPE, GULF OF ST. LAWRENCE, C-80, S-100
60°30.9W	49°44.5N	11/ 1/74	17°42'50	64-250	QUEBEC, WALL HAY, GETHSEMANI, GULF OF ST. LAWRENCE, C-50, S-100
60°14.4W	49°13.8N	12/ 1/74	16°59'30	64-330	GULF OF ST. LAWRENCE, ICE FLOWS, C-40
60°38.8W	49°45.2N	27/ 1/74	12°38'23	76-146	GULF OF ST. LAWRENCE, C-10C
60°51.7W	49°42.1N	11/ 1/74	17°42'46	92-069	QUEBEC, LAKE I., GULF OF ST. LAWRENCE, ICE FLOWS, C-10, S-100
60°17.1W	49°45.4N	11/ 1/74	17°42'52	92-070	QUEBEC, LAKE I., GULF OF ST. LAWRENCE, ICE FLOWS, C-30, S-100
60°45.8W	49°08.5N	12/ 1/74	16°59'24	92-143	GULF OF ST. LAWRENCE, ICE FLOWS, C-65
60°11.8W	49°13.2N	12/ 1/74	16°59'30	92-144	GULF OF ST. LAWRENCE, ICE FLOWS, C-7C
60°30.3W	49°47.5N	27/ 1/74	12°38'24	93-246	QUEBEC, C-100
59°27.3W	41°18.9S	1/ 1/74	13°19'00	58-125	ATLANTIC O. EAST OF ARGENTINA C-6C
59°03.3W	29°48.6S	26/ 1/74	20°05'40	▲ 76-135	ARGENTINA, RIO PARANA, GUYA, C-6C
59°37.5W	27°13.5S	22/12/73	18°56'37	89-091	ARGENTINA, C-100
59°27.0W	27°04.1S	22/12/73	18°56'40	89-092	ARGENTINA, C-100
59°16.8W	26°54.3S	22/12/73	18°56'43	89-093	ARGENTINA, C-100
59°06.2W	26°44.5S	22/12/73	18°56'46	89-094	ARGENTINA, S-100
59°22.0W	25°08.5S	27/ 1/74	19°21'27	94-059	ARGENTINA, PALO SANTO, COMANDANTE FONTANA, GRAN CHACO, C-15
59°05.2W	25°25.1S	27/ 1/74	19°21'33	94-060	ARGENTINA, PALO PARANE, PALO SANTO, C-25
59°42.5W	24°02.5S	1/ 2/74	17°21'30	48-231	ARGENTINA, PARAGUAY, CHACO CENTRAL, RIO CONFUSO, C-40
59°21.9W	24°21.7S	1/ 2/74	17°21'35	48-232	ARGENTINA, PARAGUAY, CHACO CENTRAL, RIO CONFUSO, C-35
59°01.3W	24°40.6S	1/ 2/74	17°21'40	48-233	ARGENTINA, PARAGUAY, CHACO CENTRAL, C-35
59°39.5W	24°50.2S	27/ 1/74	19°21'20	76-306	PARAGUAY, ARGENTINA, RIO PILCOMAYO, RIO CONFUSO, PALO SANTO, C-20
59°56.3W	24°34.3S	27/ 1/74	19°21'14	94-057	ARGENTINA, IBARRETA, FORTIN LEYES, GRAN CHACO, C-18
59°39.5W	24°51.2S	27/ 1/74	19°21'20	94-058	ARGENTINA COMANDANTE FONTANA, IBARRETA, GRAN CHACO, C-2C
59°53.8W	23°09.0S	15/12/73	12°32'37	89-071	PARAGUAY, ARGENTINA, C-100
59°39.7W	23°23.0S	15/12/73	12°32'41	89-072	PARAGUAY, ARGENTINA, C-100
59°25.5W	23°37.0S	15/12/73	12°32'45	89-073	PARAGUAY, ARGENTINA, C-100
59°11.4W	23°51.0S	15/12/73	12°32'50	89-074	PARAGUAY, ARGENTINA, C-100
59°24.4W	20°09.0S	28/ 1/74	18°37'11	A4-129	PARAGUAY, BOLIVIA, RIO LATERIQUILLE, C-7C
59°14.1W	20°03.7S	29/11/73	19°12'39	* 52-029	PARAGUAY, BOLIVIA, BRAZIL, RIO PARAGUAI, CORUMBA
59°11.2W	20°07.5S	29/11/73	19°12'40	89-031	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
59°57.0W	20°57.1S	26/12/73	17°42'08	89-143	PARAGUAY, GRAN CHACO, C-94
59°47.0W	20°52.5S	26/12/73	17°42'11	89-144	PARAGUAY, GRAN CHACO, C-95
59°37.0W	20°47.7S	26/12/73	17°42'15	89-145	PARAGUAY, GRAN CHACO, C-96
59°27.0W	20°41.5S	26/12/73	17°42'18	89-146	PARAGUAY, GRAN CHACO, C-97
59°17.0W	20°33.5S	26/12/73	17°42'22	89-147	PARAGUAY, GRAN CHACO, C-95

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
59°07.0W	20°25.7S	26/12/73	17°42'25	89-148	PARAGUAY, GRAN CHACO, C-90
59°20.1W	20°15.0S	28/1/74	18°37'12	93-347	PARAGUAY, CHACO BOREAL, C-50
59°03.6W	20°33.1S	28/1/74	18°37'19	93-348	PARAGUAY, CHACO BOREAL, C-50
59°49.7W	19°40.8S	28/1/74	18°37'01	A4-128	BOLIVIA, PARAGUAY, SERRIANA, SANTIAGO, C-7C
59°44.1W	19°34.7S	25/11/73	19°12'29	* 52-028	PARAGUAY, BRAZIL, BOLIVIA, RIO PARAGUAI, LADARIO
59°48.7W	19°31.1S	25/11/73	19°12'27	89-029	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
59°30.3W	19°49.2S	25/11/73	19°12'33	89-030	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
59°51.4W	19°40.0S	28/1/74	18°37'00	93-345	PARAGUAY, BOLIVIA, CHACO BOREAL, C-4C
59°35.2W	19°57.6S	28/1/74	18°37'06	93-346	PARAGUAY, BOLIVIA, CHACO BOREAL, C-4C
59°17.8W	8°50.6S	30/1/74	17°08'19	A4-268	BRAZIL, RIO ARIPUANA, C-5C
59°19.4W	2°23.2S	31/1/74	16°23'40	A4-409	BRAZIL, C-97
59°27.7W	2°15.6S	21/1/74	20°22'00	* 64-442	BRAZIL, RIO UATUMA, C-9C
59°05.1W	2°45.6S	21/1/74	20°22'10	* 64-443	BRAZIL, RIO AMAZON, RIO MADEIRA, C-7S
59°41.8W	1°53.4S	31/1/74	16°23'30	A4-408	BRAZIL, C-99
59°50.3W	1°45.7S	21/1/74	20°21'50	* 64-441	BRAZIL, RIO UATUMA, C-9S
59°52.0W	37°54.3N	9/1/74	15°53'43	64-156	ATLANTIC O. NORTH OF BERMUDA, C-8C
59°14.8W	38°16.5N	9/1/74	15°53'54	64-157	ATLANTIC O. NORTH OF BERMUDA, C-8C
59°32.3W	40°44.2N	8/1/74	16°37'34	64-127	ATLANTIC O. EAST OF NEW ENGLAND, C-5C
59°34.9W	40°41.5N	8/1/74	16°37'33	89-350	ATLANTIC O. OFF NOVA SCOTIA, C-5E
59°09.2W	40°55.0N	8/1/74	16°37'39	89-351	ATLANTIC O. OFF NOVA SCOTIA, C-5S
59°47.1W	42°51.5N	7/1/74	17°21'10	64-050	ATLANTIC O. EAST OF NEW ENGLAND C-51
59°34.9W	42°55.7N	7/1/74	17°21'12	89-232	ATLANTIC O. OFF NEW ENGLAND, C-10C
59°03.3W	43°10.1N	7/1/74	17°21'20	64-051	ATLANTIC O. EAST OF NOVA SCOTIA C-5C
59°07.2W	43°07.4N	7/1/74	17°21'19	89-233	ATLANTIC O. OFF NEW ENGLAND, C-10C
59°30.3W	44°45.3N	6/1/74	18°04'48	91-375	ATLANTIC O. OFF MID-ATLANTIC STATES, C-5C
59°01.3W	44°55.5N	6/1/74	18°04'54	91-376	ATLANTIC O. OFF MID-ATLANTIC STATES, C-9C
59°10.8W	47°40.4N	14/1/74	15°32'50	70-063	NEWFOUNDLAND, CABOT STRAIT, CAPE RAY, S-10C, C-70
59°52.4W	47°30.0N	14/1/74	15°32'41	93-049	GULF OF ST. LAWRENCE, C-80
59°22.4W	47°36.5N	14/1/74	15°32'47	93-050	NEWFOUNDLAND, SEARSTON, STORMY POINT, C-8S, S-100
59°34.2W	49°45.9N	11/1/74	17°43'00	64-251	QUEBEC, NEWFOUNDLAND, GULF OF ST. LAWRENCE, NORTHERN ARM MT., C-30
59°18.4W	49°21.2N	12/1/74	16°59'40	64-331	NEWFOUNDLAND, GULF OF ST. LAWRENCE, LEWIS HILLS, S-100, C-60
59°42.5W	49°44.3N	27/1/74	12°38'33	76-147	GULF OF ST. LAWRENCE, C-10C
59°41.8W	49°48.6N	11/1/74	17°42'58	92-071	QUEBEC, LAKE 1., GULF OF ST. LAWRENCE, ICE FLOWS, C-2S, S-100
59°06.9W	49°51.5N	11/1/74	17°43'05	92-072	NEWFOUNDLAND, GROS MORN, GULF OF ST. LAWRENCE, C-30, S-100
59°36.9W	49°18.1N	12/1/74	16°59'36	92-145	GULF OF ST. LAWRENCE, ICE FLOWS, C-7C
59°02.6W	49°22.5N	12/1/74	16°59'42	92-146	NEWFOUNDLAND, NORTHERN ARM MT., C-70, S-100
59°54.7W	49°44.6N	27/1/74	12°38'30	93-247	GULF OF ST. LAWRENCE, C-10C
59°19.4W	49°41.3N	27/1/74	12°38'37	93-248	GULF OF ST. LAWRENCE, C-10C
58°46.8W	40°58.7S	1/1/74	13°19'10	58-126	ATLANTIC O. EAST OF ARGENTINA C-8C
58°06.2W	40°38.1S	1/1/74	13°19'20	58-127	ATLANTIC O. EAST OF ARGENTINA C-5C
58°01.6W	30°40.5S	26/1/74	20°06'00	▲ 76-136	ARGENTINA, URUGUAY, BRAZIL, RIO LUGUAY, C-80
58°56.0W	26°34.8S	22/12/73	18°56'50	89-095	ARGENTINA, C-100
58°45.8W	26°24.9S	22/12/73	18°56'53	89-096	ARGENTINA, C-100
58°35.2W	26°14.5S	22/12/73	18°56'56	89-097	ARGENTINA, PARAGUAY, C-5E
58°24.7W	26°04.7S	22/12/73	18°57'00	89-098	ARGENTINA, PARAGUAY, C-57
58°29.3W	26°00.0S	27/1/74	19°21'46	94-062	ARGENTINA, PALO PARAGUAY, FORMOSA, RIO PARAGUAY, C-30
58°11.8W	26°16.5S	27/1/74	19°21'52	94-063	ARGENTINA, PALO PARAGUAY, FORMOSA, RIO PARAGUAY, C-30
58°40.7W	25°00.0S	1/2/74	17°21'45	48-234	PARAGUAY, ARGENTINA, RIO PARAGUAY, ASCUNCION, C-3S
58°20.0W	25°19.2S	1/2/74	17°21'50	48-235	PARAGUAY, ARGENTINA, RIO PARAGUAY, FORMOSA, ASCUNCION, C-3S
58°43.8W	25°44.5S	27/1/74	19°21'40	76-307	PARAGUAY, ARGENTINA, FORMOSA, RIO PARAGUAY, C-3S
58°00.6W	25°01.0S	15/12/73	12°33'12	89-079	PARAGUAY, ARGENTINA, C-100
58°14.5W	25°54.8S	22/12/73	18°57'03	89-099	ARGENTINA, PARAGUAY, RIO PARAGUAY, C-56
58°03.9W	25°44.5S	22/12/73	18°57'07	89-100	ARGENTINA, PARAGUAY, RIO PARAGUAY, ASCUNCION, C-90
58°47.8W	25°42.1S	27/1/74	19°21'39	94-061	ARGENTINA, PALO PARANE, GRAN CHACO, C-3S
58°57.2W	24°05.0S	15/12/73	12°32'54	89-075	PARAGUAY, ARGENTINA, C-100
58°43.1W	24°19.0S	15/12/73	12°32'59	89-076	PARAGUAY, ARGENTINA, C-100
58°28.9W	24°33.0S	15/12/73	12°33'03	89-077	PARAGUAY, ARGENTINA, C-100
58°14.8W	24°47.0S	15/12/73	12°33'07	89-078	PARAGUAY, ARGENTINA, C-100
58°32.6W	21°06.0S	28/1/74	18°37'31	A4-131	BRAZIL, PARAGUAY, RIO PARAGUAY, PUERTO VOLUNDAD, C-70
58°06.6W	21°34.1S	28/1/74	18°37'41	A4-132	BRAZIL, PARAGUAY, PUERTO MARTINHO, PUERTO SASTRE, C-70
58°13.2W	21°01.4S	25/11/73	19°12'59	* 52-031	PARAGUAY, BRAZIL, RIO PARAGUAI, PUERTO GLARANI, CHACO BOREAL
58°13.2W	21°02.4S	25/11/73	19°12'59	89-034	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI, PORTO ESPERANCA
58°31.3W	21°08.5S	28/1/74	18°37'31	93-350	PARAGUAY, BRAZIL, RIO PARAGUAI, PUERTO GLARANI, C-40
58°14.8W	21°26.1S	28/1/74	18°37'38	93-351	PARAGUAY, BRAZIL, PUERTO MARTINHO, RIO PARAGUAI, C-40
58°58.3W	20°37.5S	28/1/74	18°37'21	A4-130	PARAGUAY, BOLIVIA, BRAZIL, RIO PARAGUAY, RIO LATERIQUE, C-6S
58°43.5W	20°32.8S	29/11/73	19°12'49	* 52-030	PARAGUAY, BRAZIL, BOLIVIA, RIO PARAGUAI, PORTO ESPERANCA
58°52.1W	20°25.8S	25/11/73	19°12'46	89-032	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
58°32.6W	20°44.3S	29/11/73	19°12'52	89-033	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI
58°57.0W	20°16.1S	26/12/73	17°42'28	89-149	PARAGUAY, GRAN CHACO, C-7S
58°47.0W	20°05.5S	26/12/73	17°42'32	89-150	BOLIVIA, PARAGUAY, GRAN CHACO, C-6C
58°47.4W	20°50.7S	28/1/74	18°37'25	93-349	PARAGUAY, CHACO BOREAL
58°37.0W	19°55.3S	26/12/73	17°42'35	89-151	BOLIVIA, PARAGUAY, GRAN CHACO, C-5C
58°27.0W	19°45.1S	26/12/73	17°42'38	89-152	BOLIVIA, PARAGUAY, BRAZIL, C-60

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B RGLL-FRAME	LOCATION AND COMMENTS
58°17.0W	19°35.2S	26/12/73	17°42'42	89-153	BOLIVIA, PARAGUAY, BRAZIL, CORUMBA, RIO PARAGUAI, C-50
58°07.0W	19°25.4S	26/12/73	17°42'45	89-154	BOLIVIA, PARAGUAY, BRAZIL, CORUMBA, RIO PARAGUAI, C-60
58°16.5W	10°02.6S	7/12/73	15°01'37	91-161	BRAZIL, RIO JURUENA, C-55
58°32.0W	9°49.6S	30/ 1/74	17°08'39	A4-269	BRAZIL, RIO JURUENA, C-45
58°47.1W	9°23.5S	7/12/73	15°01'24	91-160	BRAZIL, RIO JURUENA, C-40
58°34.8W	3°22.6S	31/ 1/74	16°24'00	A4-411	BRAZIL, C-98
58°12.5W	3°52.3S	31/ 1/74	16°24'10	A4-412	BRAZIL, RIO CANUMA, C-90
58°42.6W	3°15.7S	21/ 1/74	20°22'20	* 64-444	BRAZIL, RIO AMAZON, ITACOATIARA, RIO MADEIRA, C-65
58°20.0W	3°45.6S	21/ 1/74	20°22'30	* 64-445	BRAZIL, RIO AMAZON, RIO MADEIRA, C-60
58°57.1W	2°52.9S	31/ 1/74	16°23'50	A4-410	BRAZIL, C-100
58°29.0W	4°55.1N	22/ 1/74	19°37'08	93-200	GUYANA, BRAZIL, RIO PATARD, C-65
58°49.4W	5°17.4N	22/ 1/74	19°37'00	93-198	GUYANA, RIO MAZARUNI, C-70
58°34.3W	5°01.1N	22/ 1/74	19°37'06	93-199	GUYANA, RIO MAZARUNI, C-65
58°36.9W	38°39.0N	9/ 1/74	15°54'03	64-158	ATLANTIC O. NORTH OF BERMUDA, C-80
58°10.5W	41°24.5N	8/ 1/74	16°37'54	64-128	ATLANTIC O. EAST OF NEW ENGLAND, C-50
58°44.5W	41°07.5N	8/ 1/74	16°37'45	89-352	ATLANTIC O. OFF NOVA SCOTIA, C-50
58°18.4W	41°20.2N	8/ 1/74	16°37'51	89-353	ATLANTIC O. OFF NOVA SCOTIA, C-55
58°19.1W	43°26.5N	7/ 1/74	17°21'30	64-052	ATLANTIC O. EAST OF NOVA SCOTIA, C-80
58°40.2W	43°19.0N	7/ 1/74	17°21'25	89-234	ATLANTIC O. OFF NEW ENGLAND, C-100
58°12.2W	43°30.5N	7/ 1/74	17°21'31	89-235	ATLANTIC O. OFF NEW ENGLAND, C-55
58°35.2W	45°05.4N	6/ 1/74	18°05'00	58-374	ATLANTIC O. OFF VA., C-50
58°32.6W	45°05.4N	6/ 1/74	18°05'00	91-377	ATLANTIC O. OFF MID-ATLANTIC STATES, C-80
58°02.3W	45°19.8N	6/ 1/74	18°05'07	91-378	ATLANTIC O. OFF MID-ATLANTIC STATES, C-80
58°19.1W	47°52.1N	14/ 1/74	15°33'00	70-064	NEWFOUNDLAND, BARASWAY BAY, S-100, C-60
58°37.6W	49°54.5N	11/ 1/74	17°43'10	64-252	QUEBEC, NEWFOUNDLAND, GULF OF ST. LAWRENCE, LONG RANGE MTS., C-20
58°23.1W	49°28.1N	12/ 1/74	16°59'50	64-332	NEWFOUNDLAND, GULF OF ST. LAWRENCE, CORNER BROOK, S-100, C-60
58°46.1W	49°38.8N	27/ 1/74	12°38'43	76-148	GULF OF ST. LAWRENCE, C-90, ICE
58°31.6W	49°54.2N	11/ 1/74	17°43'11	92-073	NEWFOUNDLAND, BONNE BAY, WESTERN BROOK POND, GRUS MORN, C-20, S-100
58°27.3W	49°26.8N	12/ 1/74	16°59'49	92-147	NEWFOUNDLAND, NORTHERN ARM MT., BONNE BAY, C-75, S-100
58°44.5W	49°37.5N	27/ 1/74	12°38'43	93-249	GULF OF ST. LAWRENCE, C-100
58°09.9W	49°34.2N	27/ 1/74	12°38'49	93-250	NEWFOUNDLAND, LONG RANGE MTS., ST. PAUL'S INLET, C-80
57°26.4W	40°17.3S	1/ 1/74	13°19'30	58-128	ATLANTIC O. EAST OF ARGENTINA C-55
57°18.2W	26°16.7S	1/ 2/74	17°22'05	48-238	ARGENTINA, PARAGUAY, RIO PARAGUAY, RIO TEBICUARY, C-35
57°47.5W	26°39.5S	27/ 1/74	19°22'00	76-308	PARAGUAY, ARGENTINA, RIO PARAGUAY, RIO PARANA, FORMOSA, C-45
57°54.4W	26°33.3S	27/ 1/74	19°21'58	94-064	ARGENTINA, PALO PARAGUAY, RIO PARAGUAY, FORMOSA, RIO TEBICUARY, C-35
57°59.4W	25°38.2S	1/ 2/74	17°21'55	48-236	ARGENTINA, PARAGUAY, ASCUNCION, RIO PARAGUAY, C-35
57°38.8W	25°57.5S	1/ 2/74	17°22'00	48-237	ARGENTINA, PARAGUAY, ASCUNCION, RIO PARAGUAY, C-35
57°46.5W	25°15.4S	15/12/73	12°33'16	89-080	PARAGUAY, ARGENTINA, C-100
57°32.3W	25°29.0S	15/12/73	12°33'20	89-081	PARAGUAY, ARGENTINA, C-100
57°18.2W	25°43.0S	15/12/73	12°33'25	89-082	PARAGUAY, ARGENTINA, C-100
57°04.0W	25°57.0S	15/12/73	12°33'29	89-083	PARAGUAY, ARGENTINA, C-100
57°53.4W	25°34.5S	22/12/73	18°57'10	89-101	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-88
57°43.2W	25°24.4S	22/12/73	18°57'13	89-102	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-85
57°32.6W	25°13.5S	22/12/73	18°57'17	89-103	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-85
57°22.4W	25°04.0S	22/12/73	18°57'20	89-104	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-85
57°12.2W	24°53.6S	22/12/73	18°57'23	89-105	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-85
57°02.3W	24°44.1S	22/12/73	18°57'27	89-106	ARGENTINA, PARAGUAY, RIO PARAGUAY ASCUNCION, C-88
57°40.2W	22°02.1S	28/ 1/74	18°37'51	A4-133	BRAZIL, PARAGUAY, PUERTO CASADO, PUERTO SASTRE, C-70
57°13.8W	22°29.5S	28/ 1/74	18°38'01	A4-134	BRAZIL, PARAGUAY, RIO PARAGUAY, PUERTO CASADO, C-70
57°41.9W	22°01.7S	28/ 1/74	18°37'50	93-353	PARAGUAY, BRAZIL, PUERTO SASTRE, RIO PARAGUAI, C-40
57°26.0W	22°18.2S	28/ 1/74	18°37'56	93-354	BRAZIL, PARAGUAY, RIO APA, RIO PARAGUAI, C-40
57°09.9W	22°35.5S	28/ 1/74	18°38'02	93-355	PARAGUAY, BRAZIL, RIO APA, TOLDOS CUE, C-40
57°41.9W	21°30.3S	29/11/73	19°13'09	* 52-032	PARAGUAY, BRAZIL, RIO PARAGUAI, PUERTO CASADO, GRAN CHACO
57°10.5W	21°58.9S	29/11/73	19°13'19	* 52-033	PARAGUAY, BRAZIL, RIO PARAGUAI, PUERTO PINASCO
57°53.7W	21°20.5S	29/11/73	19°13'05	89-035	BOLIVIA, PARAGUAY, BRAZIL, RIO PARAGUAI, PORT ESPERANCA
57°34.3W	21°38.3S	29/11/73	19°13'11	89-036	PARAGUAY, BRAZIL, RIO PARAGUAY, PUERTO GUARANI
57°14.2W	21°56.6S	29/11/73	19°13'18	89-037	PARAGUAY, BRAZIL, RIO PARAGUAY, PUERTO CASADO
57°58.3W	21°43.5S	28/ 1/74	18°37'44	93-352	PARAGUAY, BRAZIL, PUERTO MARTINHO, RIO PARAGUAI, C-40
57°57.0W	19°16.6S	26/12/73	17°42'48	89-155	BOLIVIA, PARAGUAY, BRAZIL, CORUMBA, RIO PARAGUAI, C-60
57°47.0W	18°59.0S	26/12/73	17°42'52	89-156	BRAZIL, BOLIVIA, CORUMBA, RIO PARAGUAI, C-70
57°37.0W	18°37.2S	26/12/73	17°42'55	89-157	BRAZIL, BOLIVIA, LAGO MANDIORE, RIO PARAGUAY, C-65
57°27.0W	18°20.1S	26/12/73	17°42'58	89-158	BRAZIL, BOLIVIA, LAGO MANDIORE, RIO PARAGUAY, C-60
57°17.0W	18°06.7S	26/12/73	17°43'02	89-159	BRAZIL, BOLIVIA, LAGO MANDIORE, RIO PARAGUAY, C-60
57°06.6W	17°55.7S	26/12/73	17°43'05	89-160	BRAZIL, BOLIVIA, LAGO MANDIORE, RIO PARAGUAY, C-66
57°02.0W	17°46.0S	26/12/73	17°43'09	89-161	BRAZIL, BOLIVIA, LAGO MANDIORE, RIO PARAGUAY, C-60
57°13.6W	11°21.4S	7/12/73	15°02'04	91-163	BRAZIL, RIO ARINOS, C-40
57°45.5W	10°48.7S	30/ 1/74	17°08'59	A4-270	BRAZIL, RIO ARINOS, C-55
57°46.2W	10°40.5S	7/12/73	15°01'50	91-162	BRAZIL, RIO ARINOS, C-40
57°09.3W	5°15.5S	31/ 1/74	16°24'38	A4-415	BRAZIL, RIO TAPAJOS, C-60

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
57°05.5W	5°21.5S	31/ 1/74	16°24'40	A4-416	BRAZIL, RIO TAPAJOS, C-80
57°01.0W	5°27.5S	31/ 1/74	16°24'42	A4-417	BRAZIL, RIO TAPAJOS, C-60
57°12.2W	5°15.7S	21/ 1/74	20°23'00	* 64-448	BRAZIL, RIO TAPAJOS, C-50
57°50.1W	4°22.5S	31/ 1/74	16°24'20	A4-413	BRAZIL, RIO ABACAXIS, C-85
57°27.8W	4°51.8S	31/ 1/74	16°24'30	A4-414	BRAZIL, RIO TAPAJOS, C-80
57°57.3W	4°15.7S	21/ 1/74	20°22'40	* 64-446	BRAZIL, RIO ABACAXIS, C-55
57°34.8W	4°45.6S	21/ 1/74	20°22'50	* 64-447	BRAZIL, RIO ABACAXIS, C-60
57°27.0W	13°35.7N	24/ 1/74	18°09'18	70-415	ATLANTIC O. NORTH OF WEST INDIES, C-35
57°45.2W	19°31.0N	25/ 1/74	17°24'46	▲ 76-055	ATLANTIC O., C-60
57°58.7W	39°01.2N	9/ 1/74	15°54'14	64-159	ATLANTIC O. NORTH OF BERMUDA, C-85
57°20.4W	39°22.8N	9/ 1/74	15°54'24	64-160	ATLANTIC O. NORTH OF BERMUDA, C-85
57°52.7W	41°32.5N	8/ 1/74	16°37'58	89-354	ATLANTIC O. OFF NOVA SCOTIA, C-85
57°26.7W	41°45.1N	8/ 1/74	16°38'04	89-355	ATLANTIC O. OFF NOVA SCOTIA, C-80
57°00.7W	41°57.4N	8/ 1/74	16°38'10	89-356	N. ATLANTIC O. OFF NOVA SCOTIA, C-57
57°32.6W	43°47.2N	7/ 1/74	17°21'40	64-053	ATLANTIC O. EAST OF NOVA SCOTIA C-70
57°44.2W	43°41.5N	7/ 1/74	17°21'37	89-236	ATLANTIC O. OFF NEW ENGLAND, C-90
57°15.8W	43°53.1N	7/ 1/74	17°21'44	89-237	ATLANTIC O. OFF NEW ENGLAND, C-80
57°00.3W	45°41.0N	6/ 1/74	18°05'20	58-375	ATLANTIC O. OFF VA., C-85
57°33.3W	45°25.3N	6/ 1/74	18°05'13	91-379	ATLANTIC O. OFF NEW ENGLAND, C-80
57°01.0W	45°40.0N	6/ 1/74	18°05'20	91-380	ATLANTIC O. OFF NEW ENGLAND, C-50
57°06.3W	48°16.9N	14/ 1/74	15°33'10	70-065	NEWFOUNDLAND, HERMITAGE BAY, S-100, C-30
57°37.9W	49°58.5N	11/ 1/74	17°43'20	64-253	NEWFOUNDLAND, LONG RANGE MTS., WHITE BAY, COWHEAD, C-15, S-100
57°27.4W	49°34.6N	12/ 1/74	17°00'00	64-333	NEWFOUNDLAND, LONG RANGE MTS., CLOVER I., GRAND LAKE, S-100, C-70
57°50.1W	49°32.7N	27/ 1/74	12°38'53	76-149	NEWFOUNDLAND, LONG RANGE MTS., C-80, ICE, SNOW
57°56.0W	49°56.6N	11/ 1/74	17°43'17	92-074	NEWFOUNDLAND, LONG RANGE MTS., COW HEAD, BOANE BAY, C-15, S-100
57°20.1W	49°55.1N	11/ 1/74	17°43'23	92-075	NEWFOUNDLAND, LONG RANGE MTS., WHITE BAY, GOLD COVE, C-10, S-100
57°52.7W	49°30.0N	12/ 1/74	16°59'55	92-148	NEWFOUNDLAND, LONG RANGE MTS., C-85, S-100
57°18.5W	49°34.7N	12/ 1/74	17°00'01	92-149	NEWFOUNDLAND, SANDY LAKE, WHITE BAY, C-85, S-100
57°33.9W	49°30.3N	27/ 1/74	12°38'55	93-251	NEWFOUNDLAND, LONG RANGE MTS., WHITE BAY, C-70
56°46.8W	39°56.2S	1/ 1/74	13°19'40	58-129	ATLANTIC O. EAST OF ARGENTINA C-90
56°07.9W	39°35.0S	1/ 1/74	13°19'50	58-130	ATLANTIC O. EAST OF ARGENTINA C-100
56°59.3W	31°31.5S	26/ 1/74	20°06'20	▲ 76-137	URUGUAY, RIO ARAPAY GRANDE, C-65
56°16.4W	27°14.2S	1/ 2/74	17°22'20	48-241	PARAGUAY, ARGENTINA, RIO PARANA, POSADAS, C-35
56°49.5W	27°33.3S	27/ 1/74	19°22'21	76-309	PARAGUAY, ARGENTINA, RIO PARANA, POSADAS, ENCARNICION, C-55
56°57.6W	26°35.5S	1/ 2/74	17°22'10	48-239	PARAGUAY, ARGENTINA, RIO PARANA, C-35
56°37.0W	26°55.0S	1/ 2/74	17°22'15	48-240	PARAGUAY, ARGENTINA, RIO PARANA, ENCARNICION, C-35
56°49.4W	26°10.4S	15/12/73	12°33'34	89-084	PARAGUAY, ARGENTINA, C-100
56°34.8W	26°24.2S	15/12/73	12°33'38	89-085	PARAGUAY, ARGENTINA, C-100
56°20.2W	26°37.5S	15/12/73	12°33'42	89-086	PARAGUAY, ARGENTINA, C-100
56°05.6W	26°51.5S	15/12/73	12°33'47	89-087	PARAGUAY, ARGENTINA, C-100
56°51.1W	24°33.2S	22/12/73	18°57'30	89-107	ARGENTINA, PARAGUAY, C-100
56°40.9W	24°22.8S	22/12/73	18°57'34	89-108	ARGENTINA, PARAGUAY, C-95
56°31.0W	24°13.2S	22/12/73	18°57'37	89-109	ARGENTINA, PARAGUAY, C-55
56°20.8W	24°02.5S	22/12/73	18°57'40	89-110	PARAGUAY, C-90
56°20.4W	23°26.1S	28/ 1/74	18°38'21	A4-136	BRAZIL, PARAGUAY, RIO YPANE, C-75
56°10.6W	23°52.5S	22/12/73	18°57'44	89-111	PARAGUAY, C-85
56°01.0W	23°43.1S	22/12/73	18°57'47	89-112	PARAGUAY, GRAN CHACO, C-80
56°36.9W	23°09.5S	28/ 1/74	18°38'15	93-357	PARAGUAY, RIO AQUIDABAN, C-40
56°20.1W	23°27.4S	28/ 1/74	18°38'21	93-358	PARAGUAY, RIO YPANE, C-45
56°03.0W	23°44.5S	28/ 1/74	18°38'27	93-359	PARAGUAY, BRAZIL, RIO AGUAKAY GLAZL, C-45
56°47.1W	22°58.3S	28/ 1/74	18°38'11	A4-135	BRAZIL, PARAGUAY, LORETO, RIO PARAGUAY, C-70
56°38.9W	22°27.1S	25/11/73	19°13'29	* 52-034	PARAGUAY, BRAZIL, RIO PARAGUAY
56°06.6W	22°55.5S	25/11/73	19°13'39	* 52-035	BRAZIL, PARAGUAY, RIO PARANA
56°54.4W	22°14.1S	25/11/73	19°13'24	89-038	PARAGUAY, BRAZIL, RIO PARAGUAY, PLERIO PINASCO
56°34.3W	22°32.1S	25/11/73	19°13'30	89-039	PARAGUAY, BRAZIL, RIO PARAGUAY, PLERIO PINASCO
56°14.5W	22°49.5S	25/11/73	19°13'36	89-040	PARAGUAY, BRAZIL, RIO PARAGUAY
56°53.4W	22°52.5S	28/ 1/74	18°38'08	93-356	PARAGUAY, TOLDO CUE, C-40
56°57.4W	17°36.3S	26/12/73	17°43'13	89-162	BRAZIL, C-90
56°12.2W	12°45.7S	30/ 1/74	17°09'39	A4-272	BRAZIL, SERRA DOS CAIABIS, RIO ARINOS, RIO TELES PIRES, C-55
56°13.1W	12°37.2S	7/12/73	15°02'30	91-165	BRAZIL, SERRA DO CAIABIS, C-30
56°59.0W	11°47.5S	30/ 1/74	17°09'19	A4-271	BRAZIL, RIO ARINOS, C-50
56°43.4W	11°56.3S	7/12/73	15°02'17	91-164	BRAZIL, RIO ARINOS, C-30
56°33.6W	6°03.2S	31/ 1/74	16°24'54	A4-423	BRAZIL, RIO TAPAJOS, C-80
56°29.0W	6°09.0S	31/ 1/74	16°24'56	A4-424	BRAZIL, RIO TAPAJOS, C-80
56°24.7W	6°15.3S	31/ 1/74	16°24'58	A4-425	BRAZIL, SERRA DO CACHIMBO, C-80
56°20.4W	6°21.1S	31/ 1/74	16°25'00	A4-426	BRAZIL, SERRA DO CACHIMBO, C-85
56°15.5W	6°27.2S	31/ 1/74	16°25'02	A4-427	BRAZIL, SERRA DO CACHIMBO, C-85
56°11.2W	6°33.0S	31/ 1/74	16°25'04	A4-428	BRAZIL, SERRA DO CACHIMBO, C-90
56°06.6W	6°39.2S	31/ 1/74	16°25'06	A4-429	BRAZIL, SERRA DO CACHIMBO, C-90
56°02.3W	6°44.5S	31/ 1/74	16°25'08	A4-430	BRAZIL, SERRA DO CACHIMBO, C-90
56°27.0W	6°15.7S	21/ 1/74	20°23'20	* 64-450	BRAZIL, RIO JAMANXIM, C-55
56°04.5W	6°44.6S	21/ 1/74	20°23'30	* 64-451	BRAZIL, RIO JAMANXIM, C-60
56°56.4W	5°33.5S	31/ 1/74	16°24'44	A4-418	BRAZIL, RIO TAPAJOS, C-80

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
56°51.8W	5°35.6S	31/ 1/74	16°24'46	A4-419	BRAZIL, RIO TAPAJOS, C-80
56°47.1W	5°45.7S	31/ 1/74	16°24'48	A4-420	BRAZIL, RIO TAPAJOS, C-75
56°42.9W	5°51.4S	31/ 1/74	16°24'50	A4-421	BRAZIL, RIO TAPAJOS, C-75
56°38.2W	5°57.7S	31/ 1/74	16°24'52	A4-422	BRAZIL, RIO TAPAJOS, C-75
56°49.6W	5°45.6S	21/ 1/74	20°23'10	* 64-449	BRAZIL, RIO CREPORA, C-50
56°41.5W	39°44.3N	9/ 1/74	15°54'33	64-161	ATLANTIC O. NORTH OF BERMUDA, C-85
56°46.8W	42°04.7N	8/ 1/74	16°38'14	64-129	ATLANTIC O. EAST OF NEW ENGLAND, C-55
56°34.3W	42°09.4N	8/ 1/74	16°38'16	89-357	N. ATLANTIC O. OFF NOVA SCOTIA, C-58
56°06.9W	42°22.6N	8/ 1/74	16°38'23	89-358	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
56°49.8W	44°04.1N	7/ 1/74	17°21'50	64-054	ATLANTIC O. EAST OF NOVA SCOTIA C-50
56°04.0W	44°21.6N	7/ 1/74	17°22'00	64-055	ATLANTIC O. EAST OF NOVA SCOTIA C-40
56°47.8W	44°04.6N	7/ 1/74	17°21'50	89-238	ATLANTIC O. OFF NOVA SCOTIA, C-70
56°20.4W	44°14.5N	7/ 1/74	17°21'56	89-239	ATLANTIC O. OFF NOVA SCOTIA, C-70
56°30.0W	45°45.8N	6/ 1/74	18°05'26	91-381	ATLANTIC O. OFF NEW ENGLAND, C-50
56°00.0W	45°55.2N	6/ 1/74	18°05'32	91-382	ATLANTIC O. OFF NEW ENGLAND, C-50
56°34.0W	48°14.1N	14/ 1/74	15°33'20	70-066	NEWFOUNDLAND, HERMITAGE BAY, RED INDIAN LAKE, S-100
56°54.4W	49°26.3N	27/ 1/74	12°39'03	76-150	NEWFOUNDLAND, LONG RANGE MTS., C-60, S-80
56°26.4W	49°40.2N	12/ 1/74	17°00'10	92-150	NEWFOUNDLAND, CONFUSION BAY, NOTRE DAME BAY, CAPE ST. JOHN, C-50, S-100
56°59.3W	49°26.2N	27/ 1/74	12°39'02	93-252	NEWFOUNDLAND, SANDY LAKE, SHEFFIELD LAKE, WHITE BAY, C-60
56°25.1W	49°21.5N	27/ 1/74	12°39'08	93-253	NEWFOUNDLAND, SANDY LAKE, SHEFFIELD LAKE, C-60
56°43.2W	50°02.1N	11/ 1/74	17°43'30	64-254	NEWFOUNDLAND, LONG RANGE MTS., WHITE BAY, NOTRE DAME BAY, C-40, S-100
56°45.5W	50°01.3N	11/ 1/74	17°43'29	92-076	NEWFOUNDLAND, WHITE BAY, HOWSE I., BATE VARIF, C-10, S-100
56°06.9W	50°03.4N	11/ 1/74	17°43'36	92-077	NEWFOUNDLAND, CONFUSION BAY, WHITE BAY, NOTRE DAME BAY, C-10, S-100
55°29.0W	39°13.5S	1/ 1/74	13°20'00	58-131	ATLANTIC O. EAST OF ARGENTINA C-100
55°55.4W	32°22.7S	26/ 1/74	20°06'40	▲ 76-138	URUGUAY, EMBALSE DE RIO NEGRO, RIO NEGRO, C-40
55°17.7W	28°04.4S	1/ 2/74	17°22'35	48-244	ARGENTINA, BRAZIL (RIO GRANDE SUL), RIO URUGUAY, SAN LUIS CENZAGA, C-35
55°51.1W	28°26.5S	27/ 1/74	19°22'40	76-310	ARGENTINA, BRAZIL, RIO URUGUAY, SAN BORJA, C-65
55°56.8W	27°30.5S	1/ 2/74	17°22'25	48-242	PARAGUAY, ARGENTINA, BRAZIL (RIO GRANDE SUL), RIO URUGUAY, C-35
55°37.2W	27°47.7S	1/ 2/74	17°22'30	48-243	PARAGUAY, ARGENTINA, BRAZIL (RIO GRANDE SUL), RIO PARANA, RIO URUGUAY
55°50.9W	27°05.1S	15/12/73	12°33'51	89-088	PARAGUAY, ARGENTINA, C-100
55°36.3W	27°18.7S	15/12/73	12°33'56	89-089	PARAGUAY, ARGENTINA, C-100
55°21.7W	27°32.2S	15/12/73	12°34'00	89-090	PARAGUAY, ARGENTINA, C-100
55°26.1W	24°21.2S	28/ 1/74	18°58'41	A4-138	BRAZIL, PARAGUAY, RIO PARANA, IGATIIMI, C-70
55°46.2W	24°02.0S	28/ 1/74	18°58'33	93-360	PARAGUAY, BRAZIL, RIO AGUARAY GLAZL, C-45
55°29.0W	24°19.3S	28/ 1/74	18°58'40	93-361	PARAGUAY, BRAZIL, SIERKA DE MARACAJU, C-45
55°11.9W	24°36.6S	28/ 1/74	18°58'46	93-362	PARAGUAY, RIO ACARAY, C-45
55°53.4W	23°53.6S	28/ 1/74	18°58'31	A4-137	BRAZIL, PARAGUAY, CAPITAN BADO, C-75
55°34.3W	23°23.5S	29/11/73	19°13'49	* 52-036	BRAZIL, PARAGUAY, RIO PARANA, RIO IVAI, RIO PARANA PANEMA
55°01.7W	23°51.6S	25/11/73	19°13'59	* 52-037	BRAZIL, PARAGUAY, RIO PARANA, RIO IVAI, C-15
55°53.8W	23°07.7S	25/11/73	19°13'43	89-041	PARAGUAY, BRAZIL, RIO PARAGUAY
55°33.6W	23°25.0S	25/11/73	19°13'49	* 52-042	PARAGUAY, BRAZIL, RIO PARANA C-10
55°12.9W	23°42.5S	25/11/73	19°13'55	89-043	PARAGUAY, BRAZIL, RIO PARANA, C-15
55°50.8W	23°32.7S	22/12/73	18°57'50	89-113	PARAGUAY, GRAN CHACO, UNION, C-75
55°41.2W	23°22.6S	22/12/73	18°57'53	89-114	PARAGUAY, GRAN CHACO, UNION, C-70
55°30.7W	23°12.1S	22/12/73	18°57'57	89-115	PARAGUAY, GRAN CHACO, UNION, C-70
55°20.8W	23°02.1S	22/12/73	18°58'00	89-116	PARAGUAY, GRAN CHACO, C-70
55°10.2W	22°51.2S	22/12/73	18°58'04	89-117	PARAGUAY, GRAN CHACO, C-70
55°00.4W	22°41.1S	22/12/73	18°58'07	89-118	PARAGUAY, GRAN CHACO, C-75
55°00.0W	16°12.0S	26/12/73	17°43'44	89-163	BRAZIL, RONDONOPOLIS, C-88
55°24.7W	13°44.4S	30/ 1/74	17°09'59	A4-273	BRAZIL, RIO TELES PIRES, SERRA FORMOSA, C-45
55°40.5W	13°18.1S	7/12/73	15°02'44	91-166	BRAZIL, RIO TELES PIRES, C-65
55°07.9W	13°58.5S	7/12/73	15°02'58	91-167	BRAZIL, RIO TELES PIRES, C-65
55°03.0W	8°02.1S	31/ 1/74	16°25'34	* A4-443	BRAZIL, SERRA DO CACHIMBO, C-65
55°48.5W	7°02.5S	31/ 1/74	16°25'14	A4-433	BRAZIL, SERRA DO CACHIMBO, C-50
55°43.9W	7°08.7S	31/ 1/74	16°25'16	* A4-434	BRAZIL, SERRA DO CACHIMBO, C-55
55°39.6W	7°14.5S	31/ 1/74	16°25'18	* A4-435	BRAZIL, SERRA DO CACHIMBO, C-85
55°35.0W	7°20.6S	31/ 1/74	16°25'20	* A4-436	BRAZIL, SERRA DO CACHIMBO, C-80
55°30.4W	7°26.2S	31/ 1/74	16°25'22	* A4-437	BRAZIL, SERRA DO CACHIMBO, C-70
55°25.7W	7°32.6S	31/ 1/74	16°25'24	* A4-438	BRAZIL, SERRA DO CACHIMBO, C-70
55°21.5W	7°38.2S	31/ 1/74	16°25'26	* A4-439	BRAZIL, SERRA DO CACHIMBO, C-70
55°16.5W	7°44.5S	31/ 1/74	16°25'28	* A4-440	BRAZIL, SERRA DO CACHIMBO, C-65
55°12.2W	7°50.1S	31/ 1/74	16°25'30	* A4-441	BRAZIL, SERRA DO CACHIMBO, C-65
55°07.3W	7°56.3S	31/ 1/74	16°25'32	* A4-442	BRAZIL, SERRA DO CACHIMBO, C-65
55°41.9W	7°14.7S	21/ 1/74	20°23'40	* 64-452	BRAZIL, RIO JAMANXIM, C-60
55°19.3W	7°44.6S	21/ 1/74	20°23'50	* 64-453	BRAZIL, RIO JAMANXIM, C-60 PARTIAL FRAME ON 64
55°57.4W	6°51.1S	31/ 1/74	16°25'10	A4-431	BRAZIL, SERRA DO CACHIMBO, C-50
55°53.1W	6°56.6S	31/ 1/74	16°25'12	A4-432	BRAZIL, SERRA DO CACHIMBO, C-50
55°06.3W	10°35.6N	24/ 1/74	18°10'18	70-416	ATLANTIC O. NORTH OF WEST INDIES, C-20
55°39.5W	40°06.1N	9/ 1/74	15°54'44	64-162	ATLANTIC O. EAST OF CANADA C-75
55°16.0W	40°27.5N	9/ 1/74	15°54'54	64-163	ATLANTIC O. EAST OF CANADA C-75
55°21.8W	42°42.5N	8/ 1/74	16°38'34	64-130	ATLANTIC O. EAST OF NEW ENGLAND, C-50

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
55°40.2W	42°33.8N	8/ 1/74	16°38'29	89-359	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
55°13.2W	42°45.8N	8/ 1/74	16°38'35	89-360	N. ATLANTIC O. OFF NOVA SCOTIA, C-57
55°51.4W	44°25.4N	7/ 1/74	17°22'02	89-240	ATLANTIC O. OFF NOVA SCOTIA, C-6C
55°34.6W	44°31.8N	7/ 1/74	17°22'06	89-241	ATLANTIC O. OFF NOVA SCOTIA, C-65
55°24.4W	44°35.4N	7/ 1/74	17°22'08	89-242	ATLANTIC O. OFF NOVA SCOTIA, C-75
55°16.2W	44°38.6N	7/ 1/74	17°22'10	89-243	ATLANTIC O. OFF NOVA SCOTIA, C-75
55°23.4W	46°11.2N	6/ 1/74	18°05'40	58-376	ATLANTIC O. OFF MID-ATLANTIC STATES, C-6C
55°29.4W	46°08.6N	6/ 1/74	18°05'39	91-383	ATLANTIC O. OFF NEW ENGLAND, C-9C
55°34.3W	49°46.1N	12/ 1/74	17°00'20	64-334	NEWFOUNDLAND, WHITE BAY, NOTRE DAME BAY, CAPE ST. JOHN, S-100, C-60
55°57.7W	49°43.1N	12/ 1/74	17°00'15	92-151	NEWFOUNDLAND, NOTRE DAME BAY, LUSH'S BIGHT, CAPE ST. JOHN, C-40, S-100
55°30.4W	49°45.6N	12/ 1/74	17°00'20	92-152	NEWFOUNDLAND, CAPE ST. JOHN, C-5C, S-100
55°46.2W	50°05.2N	11/ 1/74	17°43'40	54-255	NEWFOUNDLAND, WHITE BAY, NOTRE DAME BAY, CAPE ST. JOHN, C-20, S-100
55°30.4W	50°05.2N	11/ 1/74	17°43'42	92-078	NEWFOUNDLAND, CAPE ST. JOHN, NOTRE DAME BAY, NIPPERS HARBOR, C-30
54°51.8W	38°52.1S	1/ 1/74	13°20'09	58-132	ATLANTIC O. EAST OF ARGENTINA C-5C
54°14.2W	38°30.4S	1/ 1/74	13°20'19	58-133	ATLANTIC O. EAST OF ARGENTINA C-6C
54°50.5W	33°13.0S	26/ 1/74	20°07'00	▲ 76-139	URUGUAY, TRIENTA-Y-TRES, C-45
54°51.5W	29°19.4S	27/ 1/74	19°23'00	76-311	BRAZIL, RIO IBICUI, C-80
54°58.1W	28°21.1S	1/ 2/74	17°22'40	48-245	BRAZIL (RIO GRANDE SUL), ARGENTINA, RIO URUGUAY, SAC BORJA, C-35
54°38.5W	28°13.5S	1/ 2/74	17°22'45	48-246	BRAZIL (RIO GRANDE SUL), SANTIAGO, C-35
54°18.5W	28°54.6S	1/ 2/74	17°22'50	48-247	BRAZIL (RIO GRANDE SUL), SANTIAGO, C-35
54°30.7W	25°16.5S	28/ 1/74	18°39'01	A4-140	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA, C-60
54°03.0W	25°43.7S	28/ 1/74	18°39'11	A4-141	BRAZIL, ARGENTINA, PARAGUAY, IGUAZU FALLS, RIO PARANA, C-65
54°37.0W	25°11.4S	28/ 1/74	18°38'59	93-364	BRAZIL, ARGENTINA, PARAGUAY, GREAT FALLS OF THE IGUAZU, C-40
54°19.8W	25°26.4S	28/ 1/74	18°39'05	93-365	BRAZIL, ARGENTINA, PARAGUAY, GREAT FALLS OF THE IGUAZU, C-40
54°02.4W	25°45.2S	28/ 1/74	18°39'11	93-366	BRAZIL, ARGENTINA, PARAGUAY, GREAT FALLS OF THE IGUAZU, C-40
54°58.7W	24°48.7S	28/ 1/74	18°38'51	A4-139	BRAZIL, PARAGUAY, RIO PARANA, C-7C
54°28.4W	24°19.3S	29/11/73	19°14'09	* 52-038	BRAZIL, PARAGUAY, RIO PARANA, C-2C
54°31.4W	24°17.5S	29/11/73	19°14'08	89-045	PARAGUAY, BRAZIL, RIO PARANA, C-35
54°10.3W	24°13.2S	29/11/73	19°14'14	89-046	PARAGUAY, BRAZIL, RIO PARAGUAY, RIO AVAI, C-40
54°54.1W	24°54.4S	28/ 1/74	18°38'52	93-363	BRAZIL, PARAGUAY, RIO PARANA, SANTA HELENA, C-45
54°52.8W	23°59.5S	29/11/73	19°14'02	89-044	PARAGUAY, BRAZIL, RIO PARANA, C-2C
54°50.1W	22°30.6S	22/12/73	18°58'10	89-119	PARAGUAY, GRAN CHACO, C-75
54°40.3W	22°20.2S	22/12/73	18°58'14	89-120	PARAGUAY, GRAN CHACO, C-75
54°30.4W	22°10.0S	22/12/73	18°58'17	89-121	PARAGUAY, GRAN CHACO, C-80
54°34.6W	20°14.2S	1/12/73	17°47'22	* 52-159	BRAZIL, NEAR CAMPU GRANDE, C-30
54°30.0W	15°45.0S	26/12/73	17°43'55	89-164	BRAZIL, C-85
54°05.3W	15°15.2S	7/12/73	15°03'25	91-169	BRAZIL, SERRA AZUL, C-75
54°37.0W	14°42.4S	30/ 1/74	17°10'19	A4-274	BRAZIL, SERRA AZUL, C-4C
54°37.0W	14°36.6S	7/12/73	15°03'11	91-168	BRAZIL, RIO TELES PIRES, SERRA AZUL, C-80
54°11.6W	9°11.6S	21/ 1/74	20°24'20	* 61-456	BRAZIL, RIO IRIRINOVO, C-75
54°58.7W	8°07.7S	31/ 1/74	16°25'36	* A4-444	BRAZIL, RIO IRIRI, C-65
54°53.8W	8°14.0S	31/ 1/74	16°25'38	* A4-445	BRAZIL, RIO IRIRI, C-65
54°49.5W	8°15.6S	31/ 1/74	16°25'40	* A4-446	BRAZIL, RIO IRIRI, C-65
54°44.9W	8°25.8S	31/ 1/74	16°25'42	* A4-447	BRAZIL, RIO IRIRI, C-70
54°40.3W	8°31.4S	31/ 1/74	16°25'44	* A4-448	BRAZIL, RIO IRIRI, C-70
54°35.6W	8°37.7S	31/ 1/74	16°25'46	* A4-449	BRAZIL, RIO IRIRI, C-70
54°31.0W	8°43.3S	31/ 1/74	16°25'48	* A4-450	BRAZIL, RIO IRIRI, C-70
54°26.4W	8°49.6S	31/ 1/74	16°25'50	* A4-451	BRAZIL, RIO IRIRI, C-70
54°21.8W	8°55.2S	31/ 1/74	16°25'52	* A4-452	BRAZIL, RIO IRIRI, C-75
54°56.7W	8°14.0S	21/ 1/74	20°24'00	* 61-454	BRAZIL, RIO CURNA, C-70
54°34.1W	8°44.9S	21/ 1/74	20°24'10	* 61-455	BRAZIL, RIO IRIRI, C-75
54°02.4W	15°11.8N	25/ 1/74	17°26'16	▲ 76-056	ATLANTIC O., C-80
54°52.5W	40°48.8N	9/ 1/74	15°55'04	64-164	ATLANTIC O. EAST OF CANADA C-75
54°08.9W	41°10.2N	9/ 1/74	15°55'14	64-165	ATLANTIC O. EAST OF CANADA C-75
54°45.9W	42°57.7N	8/ 1/74	16°38'42	89-361	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
54°19.2W	43°05.1N	8/ 1/74	16°38'48	89-362	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
54°59.0W	46°17.6N	6/ 1/74	18°05'45	91-384	ATLANTIC O. OFF NEW ENGLAND, C-5C
54°29.4W	46°26.4N	6/ 1/74	18°05'51	91-385	ATLANTIC O. OFF NEW ENGLAND, C-5C
54°47.5W	48°34.6N	14/ 1/74	15°33'40	70-067	NEWFOUNDLAND, GANDER, GANDER LAKE, BONAVISTA BAY, ICE FLOWS, S-100
54°48.2W	50°07.3N	11/ 1/74	17°43'49	92-079	NEWFOUNDLAND, NEW WORLD I., FOGO I., WALE'S GULCH, C-30, S-100
54°13.9W	50°08.5N	11/ 1/74	17°43'55	92-080	NEWFOUNDLAND, FOGO I., CHANGE I., JOE BATT'S ARM, C-40, S-100
53°36.6W	38°07.5S	1/ 1/74	13°20'29	58-134	ATLANTIC O. EAST OF ARGENTINA C-6C
53°45.2W	34°01.7S	26/ 1/74	20°07'19	▲ 76-140	URUGUAY, CABO CASTILLO, CABO SANTA MARIA, C-25
53°00.6W	30°01.6S	1/ 2/74	17°23'10	48-251	BRAZIL (RIO GRANDE SUL), RIO JACUI, C-35
53°50.8W	30°11.7S	27/ 1/74	19°23'20	76-312	BRAZIL, COCHOEIRA, RIO JACUI, C-6C

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
53°59.7W	30°02.1S	27/ 1/74	19°23'19	94-065	BRAZIL, SAO LUIS GONZAGA, SANTIAGO, C-60
53°44.3W	30°15.1S	27/ 1/74	19°23'24	94-066	BRAZIL, SANTIAGO, C-60
53°59.4W	29°11.4S	1/ 2/74	17°22'55	48-248	BRAZIL (RIO GRANDE SUL), SANTA MARIA, C-35
53°39.8W	29°28.1S	1/ 2/74	17°23'00	48-249	BRAZIL (RIO GRANDE SUL), SANTA MARIA, C-35
53°20.2W	29°44.6S	1/ 2/74	17°23'05	48-250	BRAZIL (RIO GRANDE SUL), RIO JACUI, CACHERIA DO SUL, C-35
53°35.0W	26°10.5S	28/ 1/74	18°39'21	A4-142	BRAZIL, ARGENTINA, RIO PELOTAS, RIO IGUAZU, C-70
53°06.7W	26°37.9S	28/ 1/74	18°39'31	A4-143	BRAZIL, PARAGUAY, RIO PELOTAS, C-7C
53°45.2W	26°01.5S	28/ 1/74	18°39'17	93-367	BRAZIL, ARGENTINA, RIO IGUAZU, C-45
53°27.4W	26°19.5S	28/ 1/74	18°39'23	93-368	BRAZIL, ARGENTINA, RIO NISIO CERQUEIRA, C-45
53°09.6W	26°36.1S	28/ 1/74	18°39'30	93-369	BRAZIL, ARGENTINA, RIO PELOTAS, RIO LUGLAY, C-40
53°20.5W	25°14.4S	29/11/73	19°14'29	* 52-040	BRAZIL, PARAGUAY, RIO PARANA, C-35
53°28.4W	25°09.5S	29/11/73	19°14'27	89-048	PARAGUAY, BRAZIL, RIO PARAGUAY, C-5C
53°54.8W	24°46.5S	29/11/73	19°14'19	* 52-039	BRAZIL, PARAGUAY, RIO PARANA, C-25
53°49.8W	24°51.6S	29/11/73	19°14'20	89-047	PARAGUAY, BRAZIL, RIO PARAGUAY, C-5C
53°43.2W	21°09.5S	1/12/73	17°47'42	* 52-160	BRAZIL, RIO PARDO, C-20
53°47.9W	21°26.5S	22/12/73	18°58'31	89-122	PARAGUAY, GRAN CHACO, C-80
53°31.4W	21°08.5S	22/12/73	18°58'37	89-123	PARAGUAY, BRAZIL, C-85
53°20.5W	21°35.7S	1/12/73	17°47'51	90-134	BRAZIL, RIO PARDO, FORQUILHA C-12
53°09.3W	20°45.1S	22/12/73	18°58'44	89-124	PARAGUAY, BRAZIL, C-90
53°55.1W	20°58.5S	1/12/73	17°47'38	90-133	BRAZIL, RIO ANHANDUI-MIRIM C-12
53°00.1W	16°38.6S	3C/ 1/74	17°10'59	A4-276	BRAZIL, RIO AKAGUAIA, C-65
53°00.1W	16°32.5S	7/12/73	15°03'52	91-171	BRAZIL, RIO MORTES, C-95
53°48.8W	15°40.5S	3C/ 1/74	17°10'39	A4-275	BRAZIL, RIO LAS MORTES, C-7C
53°31.7W	15°55.1S	7/12/73	15°03'38	91-170	BRAZIL, RIO MORTES, C-85
53°26.4W	10°12.5S	21/ 1/74	20°24'40	* 61-458	BRAZIL, RIO XINGU, C-85
53°03.8W	10°41.5S	21/ 1/74	20°24'50	* 61-459	BRAZIL, C-90
53°49.0W	9°34.5S	21/ 1/74	20°24'30	* 61-457	BRAZIL, RIO XINGU, C-8C
53°25.3W	41°25.2N	9/ 1/74	15°55'24	64-166	ATLANTIC O. EAST OF CANADA C-75
53°53.8W	43°20.5N	8/ 1/74	16°38'54	64-131	ATLANTIC O. EAST OF NOVA SCOTIA, C-85
53°50.8W	43°20.6N	8/ 1/74	16°38'54	89-363	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
53°21.8W	43°32.6N	8/ 1/74	16°39'00	89-364	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
53°44.6W	46°35.7N	6/ 1/74	18°06'00	58-377	ATLANTIC O. OFF MID-ATLANTIC STATES, C-8C
53°56.4W	46°35.6N	6/ 1/74	18°05'57	91-386	ATLANTIC O. OFF NEW ENGLAND, C-EC
53°27.1W	46°43.6N	6/ 1/74	18°06'03	91-387	ATLANTIC O. OFF NEW ENGLAND, C-EC
53°38.6W	49°55.5N	12/ 1/74	17°00'40	64-335	NEWFOUNDLAND, FOGU I., DEADMAN'S BAY, BAY OF EXPLCITS, S-100, C-60
53°49.2W	50°09.5N	11/ 1/74	17°44'00	54-256	NEWFOUNDLAND, NOTRE DAME BAY, FOGU I., C-5C, S-100
53°41.9W	50°09.3N	11/ 1/74	17°44'01	92-081	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOCKS, C-40
53°08.0W	50°10.2N	11/ 1/74	17°44'07	92-082	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOCKS, C-45
52°59.7W	37°45.5S	1/ 1/74	13°20'39	58-135	ATLANTIC O. EAST OF ARGENTINA C-3C
52°23.2W	37°23.5S	1/ 1/74	13°20'49	58-136	ATLANTIC O. EAST OF ARGENTINA C-2C
52°37.3W	34°50.7S	26/ 1/74	20°07'39	▲ 76-141	ATLANTIC O. OFF URUGUAY, C-15
52°49.2W	31°03.3S	27/ 1/74	19°23'40	76-313	BRAZIL, PELOTAS, RIO CAMAQUA, C-6C
52°41.0W	30°16.3S	1/ 2/74	17°23'15	48-252	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, RIO JACUI, C-30
52°21.5W	30°35.5S	1/ 2/74	17°23'20	48-253	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, PELOTAS, C-30
52°01.9W	30°51.6S	1/ 2/74	17°23'25	48-254	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, ATLANTIC O., C-3C
52°38.0W	27°04.5S	28/ 1/74	18°39'41	A4-144	BRAZIL, RIO PELOTAS, ERECHIM, C-7C
52°09.0W	27°32.5S	28/ 1/74	18°39'51	A4-145	BRAZIL, RIO PELOTAS, CHAPECO, C-75
52°33.0W	27°10.4S	28/ 1/74	18°39'42	93-371	BRAZIL, RIO PELOTAS, CHAPECO, RIO CHAPECO, C-45
52°14.6W	27°27.5S	28/ 1/74	18°39'49	93-372	BRAZIL, RIO PELOTAS, ERECHIM, CHAPECO, C-55
52°51.8W	26°52.5S	28/ 1/74	18°39'36	93-370	BRAZIL, RIO PELOTAS, RIO CHAPECO, SAO CARLOS, C-45
52°51.8W	22°05.4S	1/12/73	17°48'02	* 52-161	BRAZIL, RIO PARANA, RIO PARANAPANEMA, C-20
52°44.9W	22°13.5S	1/12/73	17°48'04	90-135	BRAZIL, RIO PARANA, RIO PARANAPANEMA, RIO PARDO C-15
52°09.0W	22°51.5S	1/12/73	17°48'18	90-136	BRAZIL, RIO PARANAPANEMA, SANTO IGNACIO C-2C
52°10.6W	17°36.4S	3C/ 1/74	17°11'19	A4-277	BRAZIL, SERRA CAIAPU, C-75
52°27.1W	17°11.7S	7/12/73	15°04'05	91-172	BRAZIL, RIO DAS GAICAS, C-90
52°41.2W	11°11.5S	21/ 1/74	20°25'00	* 61-460	BRAZIL, C-96
52°18.6W	11°40.5S	21/ 1/74	20°25'10	* 61-461	BRAZIL, C-98
52°55.1W	10°47.5S	31/ 1/74	16°26'30	* A4-453	BRAZIL, SERRA DO RONCADOR, C-65
52°50.5W	10°55.5S	31/ 1/74	16°26'32	* A4-454	BRAZIL, SERRA DO RONCADOR, C-65
52°07.7W	6°45.5N	24/ 1/74	18°11'36	* 70-417	ATLANTIC O. NORTH OF WEST INDIES, C-80
52°41.7W	41°48.4N	9/ 1/74	15°55'34	64-167	ATLANTIC O. EAST OF CANADA C-8C
52°25.1W	43°56.2N	8/ 1/74	16°39'14	64-132	ATLANTIC O. EAST OF NOVA SCOTIA, C-6C
52°56.1W	43°43.3N	8/ 1/74	16°39'07	89-365	N. ATLANTIC O. OFF NOVA SCOTIA, C-55
52°28.1W	43°54.3N	8/ 1/74	16°39'13	89-366	N. ATLANTIC O. OFF NEWFOUNDLAND, C-5C
52°55.4W	46°52.4N	6/ 1/74	18°06'10	91-388	ATLANTIC O. OFF NEW ENGLAND, C-7C

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
52°04.0W	47°06.7N	6/ 1/74	18°06'20	58-378	ATLANTIC O. OFF MID-ATLANTIC STATES, C-80
52°23.2W	47°01.1N	6/ 1/74	18°06'16	91-389	ATLANTIC O. OFF NEW ENGLAND, C-70
52°59.7W	48°53.2N	14/ 1/74	15°34'00	70-068	NEWFOUNDLAND, BONAVISTA BAY, TRINITY BAY, BCNAVISTA, ICE FLOWS
52°32.0W	50°10.8N	11/ 1/74	17°44'13	92-083	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-60
51°46.9W	37°00.0S	1/ 1/74	13°20'59	58-137	ATLANTIC O. EAST OF ARGENTINA C-20
51°11.3W	36°37.0S	1/ 1/74	13°21'09	58-138	ATLANTIC O. EAST OF ARGENTINA C-20
51°28.1W	35°38.6S	26/ 1/74	20°07'59	▲ 76-142	ATLANTIC O. OFF URUGUAY, C-30
51°42.3W	31°06.5S	1/ 2/74	17°23'30	48-255	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, PELOTAS, C-30
51°22.7W	31°25.2S	1/ 2/74	17°23'35	48-256	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, LOURENÇO DO SUL, C-30
51°03.1W	31°42.0S	1/ 2/74	17°23'40	48-257	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, C-35
51°45.6W	31°54.8S	27/ 1/74	19°24'01	76-314	BRAZIL, PELOTAS, LAGOA DOS PATOS, SÃO LOURENÇO DO SUL
51°10.6W	28°25.2S	28/ 1/74	18°40'11	A4-147	BRAZIL, RIO PELOTAS, LAGOA VERMELHA, C-80
51°38.7W	28°00.7S	28/ 1/74	18°40'01	93-374	BRAZIL, RIO PELOTAS, LAGOA VERMELHA, C-65
51°20.5W	28°17.2S	28/ 1/74	18°40'07	93-375	BRAZIL, LAGOA VERMELHA, C-65
51°02.4W	28°33.5S	28/ 1/74	18°40'14	93-376	BRAZIL, RIO PELOTAS, VACARIA, C-70
51°39.6W	27°59.0S	28/ 1/74	18°40'01	A4-146	BRAZIL, RIO PELOTAS, JOACABA, C-75
51°57.1W	27°44.0S	28/ 1/74	18°39'55	93-373	BRAZIL, RIO PELOTAS, ERECHIM, RIO DO PAIXE, C-65
51°58.4W	23°01.6S	1/12/73	17°48'22	* 52-162	BRAZIL, RIO PARANAPANEMA, RIO TIBAGI, RIO IVAÍ, C-30
51°05.0W	23°56.4S	1/12/73	17°48'42	* 52-163	BRAZIL, RIO IVAÍ, C-60
51°32.1W	23°25.0S	1/12/73	17°48'32	90-137	BRAZIL, CONDURINA, ROLANDIA, RIO TIBAGI C-35
51°00.5W	19°00.3S	7/12/73	15°04'30	* 49-416	BRAZIL (GOIAS) C-50
51°20.9W	18°33.6S	30/ 1/74	17°11'39	A4-278	BRAZIL, RIO CORRENTE, RIO CLARO, C-65
51°20.5W	18°26.7S	7/12/73	15°04'32	91-174	BRAZIL, RIO CLARO, C-65
51°54.5W	17°46.4S	7/12/73	15°04'18	91-173	BRAZIL, RIO ARAGUAIA, C-85
51°56.1W	12°10.2S	21/ 1/74	20°25'20	* 61-462	BRAZIL, C-98
51°33.5W	12°35.4S	21/ 1/74	20°25'30	* 61-463	BRAZIL, C-98
51°44.9W	11°03.6S	31/ 1/74	16°26'34	* A4-455	BRAZIL, SERRA DO RONCADOR, C-65
51°07.4W	0°36.7S	30/11/73	16°50'07	* 52-094	BRAZIL, AMAZON R., C-50
51°08.8W	5°33.6N	24/ 1/74	18°12'00	* 70-418	ATLANTIC O. AT WINDWARD ISLANDS, C-100
51°04.3W	5°27.6N	24/ 1/74	18°12'02	* 70-419	ATLANTIC O. AT WINDWARD ISLANDS, C-100
51°40.0W	12°17.0N	25/ 1/74	17°27'16	▲ 76-057	ATLANTIC O., C-30
51°58.1W	42°07.5N	9/ 1/74	15°55'44	64-168	ATLANTIC O. EAST OF CANADA C-80
51°59.4W	44°05.3N	8/ 1/74	16°39'19	89-367	N. ATLANTIC O. OFF NEWFOUNDLAND, C-60
51°30.4W	44°16.5N	8/ 1/74	16°39'25	89-368	N. ATLANTIC O. OFF NEWFOUNDLAND, C-50
51°02.1W	44°27.0N	8/ 1/74	16°39'32	89-369	N. ATLANTIC O. OFF NEWFOUNDLAND, C-60
51°51.8W	47°09.2N	6/ 1/74	18°06'22	91-390	ATLANTIC O. OFF NEW ENGLAND, C-75
51°16.9W	47°17.0N	6/ 1/74	18°06'29	91-391	ATLANTIC O. OFF NEW ENGLAND, C-80
51°08.7W	49°10.0N	14/ 1/74	15°34'20	70-069	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
51°55.8W	50°12.1N	11/ 1/74	17°44'20	64-257	ATLANTIC O. EAST OF NEWFOUNDLAND, C-75
51°38.3W	50°03.4N	12/ 1/74	17°01'00	54-336	ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
51°56.5W	50°11.3N	11/ 1/74	17°44'20	92-084	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-65
50°35.7W	36°13.7S	1/ 1/74	13°21'19	58-139	ATLANTIC O. EAST OF ARGENTINA C-10
50°00.4W	35°50.2S	1/ 1/74	13°21'29	58-140	ATLANTIC O. EAST OF ARGENTINA C-10
50°08.7W	33°08.6S	27/ 1/74	19°24'32	94-067	ATLANTIC O. OFF BRAZIL, C-45
50°24.0W	32°15.4S	1/ 2/74	17°23'50	48-259	ATLANTIC O. OFF BRAZIL, C-40
50°04.4W	32°32.2S	1/ 2/74	17°23'55	48-260	ATLANTIC O. OFF BRAZIL, C-40
50°43.6W	31°56.7S	1/ 2/74	17°23'45	48-258	BRAZIL (RIO GRANDE SUL), LAGOA DOS PATOS, C-35
50°11.4W	29°18.3S	28/ 1/74	18°40'31	A4-149	BRAZIL, TORRES, SERRA GERAL, C-70
50°25.2W	29°06.6S	28/ 1/74	18°40'26	93-378	BRAZIL, SIERRA GERAL, RIO DOS ANTAIS, C-75
50°06.0W	29°23.6S	28/ 1/74	18°40'32	93-379	BRAZIL, TORRES, LAGOA DAS QUADRAS, C-50
50°41.0W	28°51.6S	28/ 1/74	18°40'21	A4-148	BRAZIL, SERRA GERAL, RIO PELOTAS, C-80
50°43.9W	28°45.5S	28/ 1/74	18°40'20	93-377	BRAZIL, RIO PELOTAS, RIO DAS ANTAIS, VACARIA, C-70
50°10.8W	24°51.0S	1/12/73	17°49'02	* 52-164	BRAZIL, RIO TIBAGI, C-90
50°55.5W	24°07.5S	1/12/73	17°48'46	90-138	BRAZIL, RIO TIBAGI C-75
50°18.6W	24°44.7S	1/12/73	17°48'59	90-139	BRAZIL, NEAR CURITIBA C-90
50°30.8W	19°30.0S	30/ 1/74	17°11'59	A4-279	BRAZIL, RIO GRANDE, RIO PARANAIBA, C-35
50°15.9W	19°40.5S	7/12/73	15°04'50	* 49-417	BRAZIL (GOIAS-MINAS GERAIS) RIO PARANAIBA C-50
50°49.6W	19°03.6S	7/12/73	15°04'44	91-175	BRAZIL, RIO PARANAIBA, C-80
50°15.9W	19°41.5S	7/12/73	15°04'58	91-176	BRAZIL, RIO GRANDE, C-65
50°44.7W	1°07.4S	30/11/73	16°50'17	* 52-095	BRAZIL, RIO AMAZON, C-85
50°22.1W	1°38.2S	30/11/73	16°50'27	* 52-096	BRAZIL, RIO PARA, C-85

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
50°41.8W	4°57.9N	24/ 1/74	18°12'12	* 70-424	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°37.3W	4°51.9N	24/ 1/74	18°12'14	* 70-425	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°32.9W	4°45.5N	24/ 1/74	18°12'16	* 70-426	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°28.4W	4°40.0N	24/ 1/74	18°12'18	* 70-427	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°23.9W	4°34.0N	24/ 1/74	18°12'20	* 70-428	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°19.4W	4°28.1N	24/ 1/74	18°12'22	* 70-429	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°14.9W	4°22.1N	24/ 1/74	18°12'24	* 70-430	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°10.4W	4°16.2N	24/ 1/74	18°12'26	* 70-431	ATLANTIC O. NORTH OF GUIANAS, C-100
50°05.6W	4°10.2N	24/ 1/74	18°12'28	* 70-432	ATLANTIC O. NORTH OF GUIANAS, C-100
50°01.4W	4°04.2N	24/ 1/74	18°12'30	* 70-433	ATLANTIC O. NORTH OF GUIANAS, C-100
50°59.8W	5°21.7N	24/ 1/74	18°12'04	* 70-420	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°55.3W	5°15.7N	24/ 1/74	18°12'06	* 70-421	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°50.8W	5°09.8N	24/ 1/74	18°12'08	* 70-422	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°46.3W	5°03.8N	24/ 1/74	18°12'10	* 70-423	ATLANTIC O. AT WINDWARD ISLANDS, C-100
50°30.8W	42°45.5N	5/ 1/74	15°56'04	64-169	ATLANTIC O. EAST OF CANADA C-75
50°54.2W	44°31.0N	8/ 1/74	16°39'34	64-133	ATLANTIC O. EAST OF NOVA SCOTIA, C-50
50°34.1W	44°37.4N	8/ 1/74	16°39'38	89-370	N. ATLANTIC O. OFF NEWFOUNDLAND, C-85
50°04.7W	44°48.0N	8/ 1/74	16°39'44	89-371	N. ATLANTIC O. OFF NEWFOUNDLAND, C-50
50°21.9W	47°32.1N	6/ 1/74	18°06'40	58-379	ATLANTIC O. OFF MID-ATLANTIC STATES, C-90
50°45.9W	47°25.7N	6/ 1/74	18°06'35	91-392	ATLANTIC O. OFF NEW ENGLAND, C-85
50°14.0W	47°33.3N	6/ 1/74	18°06'41	91-393	ATLANTIC O. OFF NEW ENGLAND, C-50
50°34.1W	48°28.0N	27/ 1/74	12°40'12	76-151	N. ATLANTIC EAST OF NEWFOUNDLAND, ICE FLOWS, C-30
50°00.4W	50°12.6N	11/ 1/74	17°44'40	64-258	ATLANTIC O. EAST OF NEWFOUNDLAND, C-75
50°51.9W	50°11.8N	11/ 1/74	17°44'31	92-085	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-70
49°25.8W	35°26.6S	1/ 1/74	13°21'39	58-141	ATLANTIC O. EAST OF URUGUAY C-10
49°25.2W	33°05.7S	1/ 2/74	17°24'05	48-262	ATLANTIC O. OFF BRAZIL, C-35
49°05.7W	33°22.4S	1/ 2/74	17°24'10	48-263	ATLANTIC O. OFF BRAZIL, C-40
49°44.8W	32°46.5S	1/ 2/74	17°24'00	48-261	ATLANTIC O. OFF BRAZIL, C-40
49°12.2W	30°11.5S	28/ 1/74	18°40'51	A4-151	BRAZIL, ATLANTIC O., C-35
49°08.7W	30°12.7S	28/ 1/74	18°40'51	93-382	ATLANTIC O. EAST OF BRAZIL, C-25
49°41.8W	29°44.5S	28/ 1/74	18°40'41	A4-150	BRAZIL, TORRES, C-35
49°47.3W	29°35.7S	28/ 1/74	18°40'39	93-380	BRAZIL, ATLANTIC O. AT TORRES, LAGOA DAS QUADRAS, C-30
49°28.1W	29°56.2S	28/ 1/74	18°40'45	93-381	ATLANTIC O. EAST OF BRAZIL, C-15
49°05.3W	21°00.1S	7/12/73	15°05'30	* 49-419	BRAZIL (MINAS GERIAS) C-70
49°39.3W	20°27.5S	30/ 1/74	17°12'19	A4-280	BRAZIL, RIO GRANDE, FERNANDOPOLIS, C-40
49°40.3W	20°20.1S	7/12/73	15°05'10	* 49-418	BRAZIL (MINAS GERIAS) C-60
49°40.3W	20°21.1S	7/12/73	15°05'12	91-177	BRAZIL, RIO GRANDE, C-70
49°07.1W	20°57.6S	7/12/73	15°05'25	91-178	BRAZIL, RIO TETE, C-85
49°12.0W	2°58.7N	24/ 1/74	18°12'52	* 68-444	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°07.5W	2°52.8N	24/ 1/74	18°12'54	* 68-445	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°03.0W	2°46.8N	24/ 1/74	18°12'56	* 68-446	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°29.9W	3°22.5N	24/ 1/74	18°12'44	* 68-440	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°25.5W	3°16.6N	24/ 1/74	18°12'46	* 68-441	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°21.0W	3°10.6N	24/ 1/74	18°12'48	* 68-442	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°16.9W	3°04.7N	24/ 1/74	18°12'50	* 68-443	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°56.9W	3°58.7N	24/ 1/74	18°12'32	* 70-434	ATLANTIC O. NORTH OF GUIANAS, C-100
49°52.4W	3°52.3N	24/ 1/74	18°12'34	* 70-435	ATLANTIC O. NORTH OF GUIANAS, C-100
49°47.9W	3°46.4N	24/ 1/74	18°12'36	* 70-436	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°43.4W	3°40.4N	24/ 1/74	18°12'38	* 70-437	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°38.9W	3°34.4N	24/ 1/74	18°12'40	* 70-438	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°34.4W	3°28.5N	24/ 1/74	18°12'42	* 70-439	ATLANTIC O. NORTH OF THE GUIANAS, C-100
49°03.1W	43°23.1N	9/ 1/74	15°56'24	64-170	ATLANTIC O. EAST OF CANADA C-75
49°35.1W	44°58.5N	8/ 1/74	16°39'50	89-372	N. ATLANTIC O. OFF NEWFOUNDLAND, C-95
49°21.2W	45°04.3N	8/ 1/74	16°39'54	64-134	ATLANTIC O. EAST OF NOVA SCOTIA, C-50
49°06.1W	45°08.6N	8/ 1/74	16°39'57	89-373	N. ATLANTIC O. OFF NEWFOUNDLAND, C-55
49°41.3W	47°40.0N	6/ 1/74	18°06'48	91-394	ATLANTIC O. OFF NEW ENGLAND, C-50
49°09.4W	47°48.1N	6/ 1/74	18°06'54	91-395	ATLANTIC O. OFF NEW ENGLAND, C-50
49°17.9W	49°24.8N	14/ 1/74	15°34'40	70-070	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
49°52.2W	50°08.0N	12/ 1/74	17°01'20	64-337	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
49°30.1W	50°11.8N	11/ 1/74	17°44'44	92-086	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-75
48°51.6W	35°02.5S	1/ 1/74	13°21'49	58-142	ATLANTIC O. EAST OF URUGUAY C-10
48°06.9W	34°12.6S	1/ 2/74	17°24'25	48-266	ATLANTIC O. OFF BRAZIL, C-60
48°16.6W	34°37.7S	1/ 1/74	13°22'00	58-143	ATLANTIC O. EAST OF URUGUAY C-15
48°46.1W	33°35.5S	1/ 2/74	17°24'15	48-264	ATLANTIC O. OFF BRAZIL, C-45
48°26.5W	33°55.5S	1/ 2/74	17°24'20	48-265	ATLANTIC O. OFF BRAZIL, C-50
48°13.0W	31°04.7S	28/ 1/74	18°41'11	A4-153	BRAZIL, ATLANTIC O., C-55
48°11.0W	31°01.1S	28/ 1/74	18°41'10	93-385	ATLANTIC O. EAST OF BRAZIL, C-40
48°42.6W	30°38.1S	28/ 1/74	18°41'01	A4-152	BRAZIL, ATLANTIC O., C-50

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
48°49.9W	30°28.8S	28/ 1/74	18°40'57	93-383	ATLANTIC O. EAST OF BRAZIL, C-35
48°30.8W	30°44.8S	28/ 1/74	18°41'04	93-384	ATLANTIC O. EAST OF BRAZIL, C-40
48°47.6W	21°23.7S	30/ 1/74	17°12'39	A4-281	BRAZIL, RIO TIETE
48°30.3W	21°40.1S	7/12/73	15°05'50	* 49-420	BRAZIL (SAO PAULO) C-80
48°12.3W	21°50.1S	7/12/73	15°06'00	* 49-421	BRAZIL (SAO PAULO) C-90
48°32.4W	21°35.2S	7/12/73	15°05'38	91-179	BRAZIL, RIO TIETE, C-90
48°27.0W	1°55.2N	24/ 1/74	18°13'12	* 68-454	ATLANTIC O. NORTH OF THE GUIANAS, C-58
48°22.5W	1°53.2N	24/ 1/74	18°13'14	* 68-455	ATLANTIC O. NORTH OF THE GUIANAS, C-56
48°18.0W	1°47.2N	24/ 1/74	18°13'16	* 68-456	ATLANTIC O. NORTH OF THE GUIANAS, C-55
48°13.6W	1°41.2N	24/ 1/74	18°13'18	* 68-457	ATLANTIC O. NORTH OF THE GUIANAS, C-55
48°09.6W	1°35.2N	24/ 1/74	18°13'20	* 68-458	ATLANTIC O. NORTH OF THE GUIANAS, C-55
48°04.6W	1°29.4N	24/ 1/74	18°13'22	* 68-459	ATLANTIC O. NORTH OF THE GUIANAS, C-55
48°00.1W	1°23.4N	24/ 1/74	18°13'24	* 68-460	ATLANTIC O. NORTH OF THE GUIANAS, C-55
48°58.5W	2°40.8N	24/ 1/74	18°12'58	* 68-447	ATLANTIC O. NORTH OF THE GUIANAS, C-100
48°54.0W	2°34.5N	24/ 1/74	18°13'00	* 68-448	ATLANTIC O. NORTH OF THE GUIANAS, C-100
48°49.5W	2°28.5N	24/ 1/74	18°13'02	* 68-449	ATLANTIC O. NORTH OF THE GUIANAS, C-98
48°45.0W	2°23.0N	24/ 1/74	18°13'04	* 68-450	ATLANTIC O. NORTH OF THE GUIANAS, C-98
48°40.5W	2°17.0N	24/ 1/74	18°13'06	* 68-451	ATLANTIC O. NORTH OF THE GUIANAS, C-98
48°36.0W	2°11.0N	24/ 1/74	18°13'08	* 68-452	ATLANTIC O. NORTH OF THE GUIANAS, C-97
48°31.5W	2°05.1N	24/ 1/74	18°13'10	* 68-453	ATLANTIC O. NORTH OF THE GUIANAS, C-98
48°48.6W	8°38.5N	25/ 1/74	17°28'30	▲ 76-058	ATLANTIC O., C-30
48°36.7W	45°18.6N	8/ 1/74	16°40'03	89-374	N. ATLANTIC O. OFF NEWFOUNDLAND, C-55
48°06.7W	45°28.7N	8/ 1/74	16°40'09	89-375	N. ATLANTIC O. OFF NEWFOUNDLAND, C-55
48°38.0W	47°55.8N	6/ 1/74	18°07'00	58-380	ATLANTIC O. OFF MID-ATLANTIC STATES, C-50
48°37.4W	47°55.2N	6/ 1/74	18°07'00	91-396	ATLANTIC O. OFF NEW ENGLAND, C-50
48°01.8W	48°02.5N	6/ 1/74	18°07'07	91-397	ATLANTIC O. OFF NEW ENGLAND, C-55
48°03.1W	50°10.8N	11/ 1/74	17°45'00	64-259	ATLANTIC O. EAST OF NEWFOUNDLAND, C-75
48°17.3W	50°10.8N	11/ 1/74	17°44'57	92-087	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOES, C-80
47°08.2W	35°02.8S	1/ 2/74	17°24'40	48-269	ATLANTIC O. OFF BRAZIL, C-EC
47°47.4W	34°29.3S	1/ 2/74	17°24'30	48-267	ATLANTIC O. OFF BRAZIL, C-75
47°27.8W	34°46.1S	1/ 2/74	17°24'35	48-268	ATLANTIC O. OFF BRAZIL, C-80
47°43.0W	34°13.4S	1/ 1/74	13°22'10	58-144	ATLANTIC O. EAST OF URUGUAY C-15
47°09.7W	33°49.0S	1/ 1/74	13°22'20	58-145	ATLANTIC O. EAST OF BRAZIL C-15
47°51.9W	31°16.8S	28/ 1/74	18°41'16	93-386	ATLANTIC O. EAST OF BRAZIL, C-35
47°31.8W	31°33.3S	28/ 1/74	18°41'22	93-387	ATLANTIC O. EAST OF BRAZIL, C-30
47°12.4W	31°48.5S	28/ 1/74	18°41'29	93-388	ATLANTIC O. EAST OF BRAZIL, C-30
47°01.8W	23°15.8S	30/ 1/74	17°13'19	A4-283	BRAZIL, SAO PAULO, CAMPINAS, C-50
47°54.9W	22°20.2S	30/ 1/74	17°12'59	A4-282	BRAZIL, RIO TIETE SAO PAULO, C-45
47°54.3W	22°00.1S	7/12/73	15°06'10	* 49-422	BRAZIL (SAO PAULO) C-90
47°36.3W	22°10.1S	7/12/73	15°06'20	* 49-423	BRAZIL (SAO PAULO) C-55
47°18.3W	22°20.1S	7/12/73	15°06'30	* 49-424	BRAZIL (SAO PAULO) C-95
47°00.3W	22°30.1S	7/12/73	15°06'40	* 49-425	BRAZIL (SAO PAULO) C-55
47°42.1W	0°55.6N	24/ 1/74	18°13'32	* 68-464	ATLANTIC O. NORTH OF THE GUIANAS, C-55
47°37.6W	0°53.6N	24/ 1/74	18°13'34	* 68-465	ATLANTIC O. NORTH OF THE GUIANAS, C-50
47°33.1W	0°47.7N	24/ 1/74	18°13'36	* 68-466	ATLANTIC O. NORTH OF THE GUIANAS, C-50
47°55.6W	1°17.5N	24/ 1/74	18°13'26	* 68-461	ATLANTIC O. NORTH OF THE GUIANAS, C-55
47°51.1W	1°11.5N	24/ 1/74	18°13'28	* 68-462	ATLANTIC O. NORTH OF THE GUIANAS, C-55
47°46.6W	1°05.5N	24/ 1/74	18°13'30	* 68-463	ATLANTIC O. NORTH OF THE GUIANAS, C-55
47°34.1W	43°58.5N	9/ 1/74	15°56'43	64-171	ATLANTIC O. EAST OF CANADA C-75
47°46.3W	45°36.1N	8/ 1/74	16°40'14	64-135	ATLANTIC O. EAST OF NOVA SCOTIA, C-50
47°36.7W	45°38.6N	8/ 1/74	16°40'15	89-376	N. ATLANTIC O. OFF NEWFOUNDLAND, C-58
47°28.5W	48°09.7N	6/ 1/74	18°07'13	91-398	ATLANTIC O. OFF NEW ENGLAND, C-55
47°24.9W	49°37.5N	14/ 1/74	15°35'00	70-071	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
47°56.9W	50°11.5N	12/ 1/74	17°01'40	64-338	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
47°04.1W	50°08.2N	11/ 1/74	17°45'10	92-088	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOES, C-85
46°48.6W	35°19.5S	1/ 2/74	17°24'45	48-270	ATLANTIC O. OFF URUGUAY C-80
46°29.0W	35°36.2S	1/ 2/74	17°24'50	48-271	ATLANTIC O. OFF URUGUAY C-50
46°09.5W	35°53.0S	1/ 2/74	17°24'55	48-272	ATLANTIC O. OFF URUGUAY C-50
46°36.8W	33°24.5S	1/ 1/74	13°22'30	58-146	ATLANTIC O. EAST OF BRAZIL C-15
46°04.1W	32°55.8S	1/ 1/74	13°22'40	58-147	ATLANTIC O. EAST OF BRAZIL C-15
46°52.6W	32°04.7S	28/ 1/74	18°41'35	93-389	ATLANTIC O. EAST OF BRAZIL, C-30
46°31.8W	32°02.5S	28/ 1/74	18°41'41	93-390	ATLANTIC O. EAST OF BRAZIL, C-35
46°11.7W	32°36.5S	28/ 1/74	18°41'48	93-391	ATLANTIC O. EAST OF ARGENTINA, C-40
46°07.4W	24°11.4S	30/ 1/74	17°13'39	A4-284	BRAZIL, SANTOS, ILHA SAO SEBASTIAO, C-35
46°07.3W	23°00.1S	7/12/73	15°07'10	* 49-427	BRAZIL (SAO PAULO) C-57
46°25.3W	22°50.1S	7/12/73	15°07'00	* 49-426	BRAZIL (SAO PAULO) C-95

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B KOLL-FRAME	LOCATION AND COMMENTS
46°02.5W	44°33.6N	5/ 1/74	15°57'04	64-172	ATLANTIC O. EAST OF CANADA C-EC
46°27.2W	46°00.5N	8/ 1/74	16°40'30	89-377	N. ATLANTIC O. OFF NEWFOUNDLAND, C-55
46°21.9W	47°34.7N	27/ 1/74	12°41'00	76-152	N. ATLANTIC EAST OF NEWFOUNDLAND, C-85
46°52.6W	48°17.8N	6/ 1/74	18°07'20	58-381	ATLANTIC O. OFF MID-ATLANTIC STATES, C-50
46°55.2W	48°16.4N	6/ 1/74	18°07'19	91-399	ATLANTIC O. OFF NEW ENGLAND, C-55
46°21.6W	48°23.0N	6/ 1/74	18°07'25	91-400	ATLANTIC O. OFF NEW ENGLAND, C-55
46°01.8W	50°12.6N	12/ 1/74	17°02'00	64-339	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
45°49.9W	36°09.7S	1/ 2/74	17°25'00	48-273	ATLANTIC O. OFF URUGUAY C-50
45°30.3W	36°26.5S	1/ 2/74	17°25'05	48-274	ATLANTIC O. OFF URUGUAY C-50
45°10.7W	36°43.2S	1/ 2/74	17°25'10	48-275	ATLANTIC O. OFF URUGUAY C-55
45°30.8W	33°08.2S	28/ 1/74	18°42'00	93-393	ATLANTIC O. EAST OF ARGENTINA, C-40
45°09.8W	33°23.8S	28/ 1/74	18°42'06	93-394	ATLANTIC O. EAST OF ARGENTINA, C-45
45°31.8W	32°34.7S	1/ 1/74	13°22'50	58-148	ATLANTIC O. EAST OF BRAZIL C-15
45°51.6W	32°52.5S	28/ 1/74	18°41'54	93-392	ATLANTIC O. EAST OF ARGENTINA, C-40
45°49.3W	23°10.1S	7/12/73	15°07'20	* 49-428	BRAZIL (SAO PAULO) C-100
45°31.3W	23°20.1S	7/12/73	15°07'30	* 49-429	BRAZIL (SAO PAULO) C-100
45°13.3W	23°30.1S	7/12/73	15°07'40	* 49-430	BRAZIL (SAO PAULO) C-100
45°55.9W	4°53.0N	25/ 1/74	17°29'46	▲ 76-059	ATLANTIC O., C-100
45°46.3W	48°25.4N	6/ 1/74	18°07'32	91-401	ATLANTIC O. OFF NEW ENGLAND, C-55
45°05.1W	48°37.7N	6/ 1/74	18°07'38	91-402	ATLANTIC O. OFF NEW ENGLAND, C-55
45°28.2W	49°45.6N	14/ 1/74	15°35'20	70-072	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-85
45°33.2W	50°04.7N	11/ 1/74	17°45'26	92-089	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-85
45°11.1W	50°03.6N	11/ 1/74	17°45'30	92-090	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-85
44°51.1W	37°00.0S	1/ 2/74	17°25'15	48-276	ATLANTIC O. EAST OF ARGENTINA, C-55
44°31.6W	37°16.7S	1/ 2/74	17°25'20	48-277	ATLANTIC O. EAST OF ARGENTINA, C-55
44°12.0W	37°33.4S	1/ 2/74	17°25'25	48-278	ATLANTIC O. EAST OF ARGENTINA, C-55
44°01.2W	34°08.2S	28/ 1/74	18°42'25	93-397	ATLANTIC O. EAST OF ARGENTINA, C-40
44°48.0W	33°18.7S	28/ 1/74	18°42'12	93-395	ATLANTIC O. EAST OF ARGENTINA, C-45
44°25.3W	33°53.5S	28/ 1/74	18°42'19	93-396	ATLANTIC O. EAST OF ARGENTINA, C-50
44°59.9W	32°09.7S	1/ 1/74	13°23'00	58-149	ATLANTIC O. EAST OF BRAZIL C-20
44°28.2W	31°44.5S	1/ 1/74	13°23'10	58-150	ATLANTIC O. EAST OF BRAZIL C-20
44°22.3W	24°00.1S	7/12/73	15°08'10	* 49-433	ATLANTIC OCEAN C-100
44°05.3W	24°10.1S	7/12/73	15°08'20	* 49-434	ATLANTIC OCEAN C-100
44°56.3W	23°40.1S	7/12/73	15°07'50	* 49-431	ATLANTIC OCEAN C-100
44°39.3W	23°50.1S	7/12/73	15°08'00	* 49-432	ATLANTIC OCEAN C-100
44°35.8W	9°26.6S	30/11/73	16°53'00	* 52-098	BRAZIL, RIO PARIM, C-70
44°12.7W	9°55.6S	30/11/73	16°53'10	* 52-099	BRAZIL, RIO PARIM, C-70
44°42.1W	9°19.6S	30/11/73	16°52'58	90-070	BRAZIL, RIO GURGUEIA C-60
44°27.6W	9°38.2S	30/11/73	16°53'04	90-071	BRAZIL, RIO GURGUEIA C-65
44°13.4W	9°56.3S	30/11/73	16°53'10	90-072	BRAZIL, SERRA VERMELHA C-75
44°58.5W	8°57.1S	30/11/73	16°52'50	* 52-097	BRAZIL, RIO PARIM, C-70
44°15.0W	2°30.0S	24/ 1/74	18°14'41	93-236	SAO LUIS, BAIJA DE SAO MARCOS, C-40
44°07.0W	2°18.0S	24/ 1/74	18°14'43	93-237	BRAZIL, SAO LUIS, BAIJA DE SAO MARCOS, BAIJA DE SAO JOSE, RIO MARIIM
44°03.0W	2°12.0S	24/ 1/74	18°14'45	93-238	BRAZIL, SAO LUIS, BAIJA DE SAO MARCOS
44°29.5W	45°06.5N	5/ 1/74	15°57'24	64-173	ATLANTIC O. EAST OF CANADA C-50
44°59.2W	46°28.8N	8/ 1/74	16°40'49	89-378	N. ATLANTIC O. OFF NEWFOUNDLAND, C-50
44°17.5W	46°41.6N	8/ 1/74	16°40'58	89-379	N. ATLANTIC O. OFF NEWFOUNDLAND, C-30
44°56.2W	48°40.0N	6/ 1/74	18°07'40	58-382	ATLANTIC O. OFF NEW ENGLAND C-50
44°20.0W	48°44.7N	6/ 1/74	18°07'44	91-403	ATLANTIC O. PARTIAL FRAME, TAPE, C-95
44°06.1W	50°11.6N	12/ 1/74	17°02'20	64-340	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
44°45.0W	50°02.2N	11/ 1/74	17°45'35	92-091	ATLANTIC O. EAST OF NEWFOUNDLAND, ICE FLOWS, C-85
43°40.0W	40°51.1S	3/12/73	18°05'13	* 52-328	CLLUCS OVER ATLANTIC, C-30
43°32.8W	38°06.9S	1/ 2/74	17°25'35	48-280	ATLANTIC O. EAST OF ARGENTINA, C-50
43°13.3W	38°23.6S	1/ 2/74	17°25'40	48-281	ATLANTIC O. EAST OF ARGENTINA, C-50
43°52.4W	37°50.2S	1/ 2/74	17°25'50	48-279	ATLANTIC O. EAST OF ARGENTINA, C-55
43°36.5W	34°22.3S	28/ 1/74	18°42'31	93-398	ATLANTIC O. EAST OF ARGENTINA, C-70
43°11.4W	34°37.3S	28/ 1/74	18°42'37	93-399	ATLANTIC O. EAST OF ARGENTINA, C-EC
43°56.9W	31°15.1S	1/ 1/74	13°23'20	58-151	ATLANTIC O. EAST OF BRAZIL C-15
43°25.9W	30°53.5S	1/ 1/74	13°23'30	58-152	ATLANTIC O. EAST OF BRAZIL C-10
43°48.3W	24°20.1S	7/12/73	15°08'30	* 49-435	ATLANTIC OCEAN C-100

LONGITUDE DDD°MM'.M	LATITUDE DD°MM'.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
43°31.3W	24°30.1S	7/12/73	15°08'40	* 49-436	ATLANTIC OCEAN C-100
43°14.2W	24°40.1S	7/12/73	15°08'50	* 49-437	ATLANTIC OCEAN C-100
43°03.9W	11°23.8S	30/11/73	16°53'40	* 52-102	BRAZIL, RIO SAN FRANCISCO, C-65
43°16.0W	11°09.8S	30/11/73	16°53'35	90-076	BRAZIL, RIO SAO FRANCISCO C-75
43°01.2W	11°28.1S	30/11/73	16°53'41	90-077	BRAZIL, RIO SAO FRANCISCO C-8C
43°50.0W	10°25.3S	30/11/73	16°53'20	* 52-100	BRAZIL, SERRA VEAMELHA, C-75
43°26.9W	10°54.8S	30/11/73	16°53'30	* 52-101	BRAZIL, RIO SAN FRANCISCO, C-60
43°58.9W	10°15.1S	30/11/73	16°53'16	90-073	BRAZIL, SERRA TABATINGA C-75
43°44.7W	10°33.1S	30/11/73	16°53'23	90-074	BRAZIL, SERRA DO ESTREITO, RIO GRANDE C-75
43°30.5W	10°51.4S	30/11/73	16°53'29	90-075	BRAZIL, RIO SAO FRANCISCO, RIO GRANDE C-75
43°41.4W	1°54.0N	25/1/74	17°30'46	▲ 76-060	ATLANTIC O., C-90
43°14.4W	48°56.5N	6/1/74	18°08'00	58-383	ATLANTIC O. OFF NEW ENGLAND C-85
43°35.8W	49°58.1N	14/1/74	15°35'40	70-073	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-85
42°20.0W	41°21.1S	3/12/73	18°05'33	* 52-329	CLOUDS OVER ATLANTIC, C-70
42°14.5W	39°13.8S	1/2/74	17°25'55	48-284	ATLANTIC O. EAST OF ARGENTINA, C-75
42°53.7W	38°40.4S	1/2/74	17°25'45	48-282	ATLANTIC O. EAST OF ARGENTINA, C-EC
42°34.1W	38°57.1S	1/2/74	17°25'50	48-283	ATLANTIC O. EAST OF ARGENTINA, C-EC
42°21.0W	35°09.6S	28/1/74	18°42'50	93-401	ATLANTIC O. EAST OF ARGENTINA, C-EC
42°46.1W	34°53.5S	28/1/74	18°42'44	93-400	ATLANTIC O. EAST OF ARGENTINA, C-EC
42°55.3W	30°27.8S	1/1/74	13°23'40	58-153	ATLANTIC O. EAST OF BRAZIL C-1C
42°24.6W	30°02.6S	1/1/74	13°23'50	58-154	ATLANTIC O. EAST OF BRAZIL C-1C
42°40.3W	25°00.1S	7/12/73	15°09'10	* 49-439	ATLANTIC OCEAN C-100
42°57.3W	24°50.1S	7/12/73	15°09'00	* 49-438	ATLANTIC OCEAN C-100
42°02.0W	22°01.2S	31/1/74	16°30'51	* A4-458	BRAZIL, C-80
42°11.1W	21°50.7S	31/1/74	16°30'47	* A4-456	BRAZIL, C-80
42°06.6W	21°55.6S	31/1/74	16°30'49	* A4-457	BRAZIL, C-80
42°17.1W	12°22.3S	30/11/73	16°54'00	* 52-104	BRAZIL, RIO SAN FRANCISCO, C-5C
42°32.2W	12°04.7S	30/11/73	16°53'54	90-079	BRAZIL C-95
42°17.7W	12°22.8S	30/11/73	16°54'00	90-080	BRAZIL C-99
42°02.9W	12°41.4S	30/11/73	16°54'06	90-081	BRAZIL C-99
42°40.5W	11°53.2S	30/11/73	16°53'50	* 52-103	BRAZIL, RIO SAN FRANCISCO, C-60
42°46.7W	11°46.2S	30/11/73	16°53'48	90-078	BRAZIL, RIO SAO FRANCISCO C-9C
42°54.3W	45°38.5N	5/1/74	15°57'44	64-174	ATLANTIC O. EAST OF CANADA C-5C
42°11.8W	50°08.8N	12/1/74	17°02'40	64-341	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
41°00.0W	41°51.1S	3/12/73	18°05'53	* 52-330	CLOUDS OVER ATLANTIC, C-90
41°15.8W	40°04.6S	1/2/74	17°26'10	48-287	ATLANTIC O. EAST OF ARGENTINA, C-5C
41°54.9W	39°30.6S	1/2/74	17°26'00	48-285	ATLANTIC O. EAST OF ARGENTINA, C-65
41°35.4W	39°47.2S	1/2/74	17°26'05	48-286	ATLANTIC O. EAST OF ARGENTINA, C-6C
41°04.1W	36°26.6S	28/1/74	18°43'24	A4-154	ATLANTIC O., C-50
41°10.5W	36°09.6S	28/1/74	18°43'15	93-405	ATLANTIC O. EAST OF ARGENTINA, C-EC
41°14.5W	36°21.6S	28/1/74	18°43'21	93-406	ATLANTIC O. EAST OF ARGENTINA, C-75
41°56.3W	35°25.6S	28/1/74	18°42'56	93-402	ATLANTIC O. EAST OF ARGENTINA, C-EC
41°31.6W	35°41.8S	28/1/74	18°43'03	93-403	ATLANTIC O. EAST OF ARGENTINA, C-ES
41°06.5W	35°57.6S	28/1/74	18°43'09	93-404	ATLANTIC O. EAST OF ARGENTINA, C-EC
41°54.6W	29°36.1S	1/1/74	13°24'00	58-155	ATLANTIC O. EAST OF BRAZIL C-1S
41°24.7W	29°09.5S	1/1/74	13°24'10	58-156	ATLANTIC O. EAST OF BRAZIL C-1E
41°07.5W	23°04.3S	31/1/74	16°31'15	* A1-470	BRAZIL, C-98
41°02.9W	23°09.5S	31/1/74	16°31'17	* A1-471	BRAZIL, C-98
41°39.3W	22°27.5S	31/1/74	16°31'01	* A1-463	BRAZIL, C-90
41°34.7W	22°32.7S	31/1/74	16°31'03	* A1-464	BRAZIL, C-90
41°30.2W	22°38.6S	31/1/74	16°31'05	* A1-465	BRAZIL, C-90
41°25.6W	22°43.2S	31/1/74	16°31'07	* A1-466	BRAZIL, C-98
41°21.1W	22°48.5S	31/1/74	16°31'09	* A1-467	BRAZIL, C-98
41°16.5W	22°53.7S	31/1/74	16°31'11	* A1-468	BRAZIL, C-98
41°12.0W	22°59.3S	31/1/74	16°31'13	* A1-469	BRAZIL, C-98
41°57.5W	22°06.4S	31/1/74	16°30'53	* A4-459	BRAZIL, C-80
41°52.9W	22°11.7S	31/1/74	16°30'55	* A4-460	BRAZIL, C-85
41°48.4W	22°16.5S	31/1/74	16°30'57	* A4-461	BRAZIL, C-85
41°43.8W	22°22.2S	31/1/74	16°30'59	* A4-462	BRAZIL, C-90
41°30.3W	13°20.7S	30/11/73	16°54'20	* 52-106	BRAZIL, C-95
41°06.5W	13°46.7S	30/11/73	16°54'30	* 52-107	BRAZIL, C-96
41°33.5W	13°17.9S	30/11/73	16°54'19	90-083	BRAZIL C-99
41°19.0W	13°35.7S	30/11/73	16°54'25	90-084	BRAZIL C-99
41°04.2W	13°53.6S	30/11/73	16°54'31	90-085	BRAZIL C-99
41°53.7W	12°51.5S	30/11/73	16°54'10	* 52-105	BRAZIL, C-95

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
41°48.1W	12°55.5S	30/11/73	16°54'13	90-082	BRAZIL C-99
41°17.7W	46°05.1N	9/ 1/74	15°58'04	64-175	ATLANTIC O. EAST OF CANADA C-50
41°26.6W	49°12.6N	6/ 1/74	18°08'20	58-384	ATLANTIC O. OFF NEW ENGLAND C-90
41°41.8W	50°04.9N	14/ 1/74	15°36'00	70-074	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
40°00.0W	42°15.5S	3/12/73	18°06'09	90-289	SOUTH ATLANTIC OCEAN, C-98
40°56.2W	40°20.8S	1/ 2/74	17°26'15	48-288	ATLANTIC O. EAST OF ARGENTINA, C-45
40°36.6W	40°37.5S	1/ 2/74	17°26'20	48-289	ATLANTIC O.
40°01.6W	37°12.4S	28/ 1/74	18°43'42	A4-157	ATLANTIC O., C-95
40°43.3W	36°43.4S	28/ 1/74	18°43'30	A4-155	ATLANTIC O., C-80
40°22.4W	36°57.5S	28/ 1/74	18°43'36	A4-156	ATLANTIC O., C-90
40°55.3W	28°43.5S	1/ 1/74	13°24'20	58-157	ATLANTIC O. EAST OF BRAZIL C-20
40°26.0W	28°17.5S	1/ 1/74	13°24'30	58-158	ATLANTIC O. EAST OF BRAZIL C-20
40°17.4W	24°02.1S	31/ 1/74	16°31'37	* A1-481	BRAZIL, C-98
40°12.9W	24°07.3S	31/ 1/74	16°31'39	* A1-482	BRAZIL, C-98
40°08.4W	24°12.5S	31/ 1/74	16°31'41	* A1-483	BRAZIL, C-98
40°03.9W	24°17.5S	31/ 1/74	16°31'43	* A1-484	BRAZIL, C-98
40°58.4W	23°14.5S	31/ 1/74	16°31'19	* A1-472	BRAZIL, C-98
40°53.8W	23°20.5S	31/ 1/74	16°31'21	* A1-473	BRAZIL, C-98
40°49.3W	23°25.3S	31/ 1/74	16°31'23	* A1-474	BRAZIL, C-98
40°44.7W	23°30.5S	31/ 1/74	16°31'25	* A1-475	BRAZIL, C-98
40°40.2W	23°35.5S	31/ 1/74	16°31'27	* A1-476	BRAZIL, C-98
40°35.6W	23°41.1S	31/ 1/74	16°31'29	* A1-477	BRAZIL, C-98
40°31.1W	23°46.3S	31/ 1/74	16°31'31	* A1-478	BRAZIL, C-98
40°26.5W	23°51.5S	31/ 1/74	16°31'33	* A1-479	BRAZIL, C-98
40°22.0W	23°56.5S	31/ 1/74	16°31'35	* A1-480	BRAZIL, C-98
40°42.8W	14°18.5S	30/11/73	16°54'40	* 52-108	BRAZIL, C-97
40°18.7W	14°47.5S	30/11/73	16°54'50	* 52-109	BRAZIL, C-98
40°30.0W	9°30.5S	29/ 1/74	16°17'15	94-068	BRAZIL, C-70
40°12.0W	9°45.5S	29/ 1/74	16°17'23	94-069	BRAZIL, C-70
40°56.0W	1°46.7S	25/ 1/74	17°32'00	▲ 76-061	ATLANTIC O., C-100
40°16.4W	50°03.7N	12/ 1/74	17°03'00	64-342	ATLANTIC O. EAST OF NEWFOUNDLAND, C-85
39°44.0W	42°21.5S	3/12/73	18°06'13	* 52-331	CLOUDS OVER PACIFIC, C-100, PARTIAL FOG
39°52.0W	42°15.5S	3/12/73	18°06'11	90-290	SOUTH ATLANTIC OCEAN, C-95
39°44.0W	42°21.5S	3/12/73	18°06'13	90-291	SOUTH ATLANTIC OCEAN, C-95
39°40.8W	37°26.5S	28/ 1/74	18°43'48	A4-158	ATLANTIC O., C-100
39°20.0W	37°41.4S	28/ 1/74	18°43'54	A4-159	ATLANTIC O., C-100
39°57.6W	27°51.5S	1/ 1/74	13°24'39	58-159	ATLANTIC O. EAST OF BRAZIL C-30
39°28.6W	27°24.5S	1/ 1/74	13°24'49	58-160	ATLANTIC O. EAST OF BRAZIL C-35
39°00.0W	26°58.2S	1/ 1/74	13°24'59	58-161	ATLANTIC O. EAST OF BRAZIL C-40
39°55.0W	15°16.5S	30/11/73	16°55'00	* 52-110	BRAZIL, C-100
39°53.4W	45°48.0N	27/ 1/74	12°42'18	76-153	N. ATLANTIC EAST OF NEWFOUNDLAND, C-80
39°38.9W	46°37.5N	5/ 1/74	15°58'24	64-176	N. ATLANTIC O., C-85
39°34.2W	49°27.3N	6/ 1/74	18°08'40	58-385	ATLANTIC O. OFF NEW ENGLAND C-90
39°47.4W	50°09.5N	14/ 1/74	15°36'20	70-075	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
38°38.3W	38°10.4S	28/ 1/74	18°44'06	A4-161	ATLANTIC O., C-100
38°17.5W	38°24.5S	28/ 1/74	18°44'12	A4-162	ATLANTIC O., C-100
38°59.1W	37°55.5S	28/ 1/74	18°44'00	A4-160	ATLANTIC O., C-100
38°32.0W	26°31.5S	1/ 1/74	13°25'09	58-162	ATLANTIC O. EAST OF BRAZIL C-35
38°03.6W	26°04.5S	1/ 1/74	13°25'19	58-163	ATLANTIC O. EAST OF BRAZIL C-25
38°22.4W	45°56.6N	12/ 1/74	17°03'20	64-343	ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
37°56.7W	38°35.4S	28/ 1/74	18°44'18	A4-163	ATLANTIC O., C-98
37°35.6W	25°37.1S	1/ 1/74	13°25'29	58-164	ATLANTIC O. EAST OF BRAZIL C-25
37°07.9W	25°10.1S	1/ 1/74	13°25'39	58-165	ATLANTIC O. EAST OF BRAZIL C-30
37°58.7W	47°04.6N	9/ 1/74	15°58'44	64-177	N. ATLANTIC O., C-80
37°42.2W	45°35.6N	6/ 1/74	18°09'00	58-386	ATLANTIC O. OFF NEW ENGLAND C-95
37°52.4W	50°12.1N	14/ 1/74	15°36'40	70-076	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
36°40.6W	24°42.5S	1/ 1/74	13°25'49	58-166	ATLANTIC O. EAST OF BRAZIL C-35
36°13.5W	24°15.5S	1/ 1/74	13°25'59	58-167	ATLANTIC O. EAST OF BRAZIL C-35
36°16.2W	47°30.5N	5/ 1/74	15°59'04	64-178	N. ATLANTIC O., C-75

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
36°28.4W	49°47.6N	12/ 1/74	17°03'40	64-344	ATLANTIC O. EAST OF NEWFOUNDLAND, C-75
35°35.6W	23°37.6S	1/ 1/74	13°26'13	58-168	ATLANTIC O. EAST OF BRAZIL C-4C
35°08.6W	23°09.1S	1/ 1/74	13°26'23	58-169	ATLANTIC O. EAST OF BRAZIL C-4C
35°49.1W	49°50.2N	6/ 1/74	18°09'20	58-387	ATLANTIC O. OFF NEW ENGLAND C-95
35°55.7W	50°12.8N	14/ 1/74	15°37'00	70-077	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
34°42.2W	22°41.6S	1/ 1/74	13°26'33	58-170	ATLANTIC O. EAST OF BRAZIL C-5C
34°16.2W	22°13.8S	1/ 1/74	13°26'43	58-171	ATLANTIC O. EAST OF BRAZIL C-5C
34°00.4W	43°41.6N	27/ 1/74	12°43'34	76-154	N. ATLANTIC EAST OF NEWFOUNDLAND, C-75
34°32.7W	47°54.2N	5/ 1/74	15°59'24	64-179	N. ATLANTIC O., C-90
34°35.3W	49°36.5N	12/ 1/74	17°04'00	64-345	ATLANTIC O. EAST OF NEWFOUNDLAND, C-70
34°00.7W	50°11.1N	14/ 1/74	15°37'20	70-078	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
33°49.8W	21°45.9S	1/ 1/74	13°26'53	58-172	ATLANTIC O. EAST OF BRAZIL C-55
33°23.8W	21°17.9S	1/ 1/74	13°27'03	58-173	ATLANTIC O. EAST OF BRAZIL C-55
33°55.4W	49°56.8N	6/ 1/74	18°09'40	58-388	ATLANTIC O. OFF NOVA SCOTIA, C-55
32°58.1W	20°45.9S	1/ 1/74	13°27'13	58-174	ATLANTIC O. EAST OF BRAZIL C-55
32°32.4W	20°21.9S	1/ 1/74	13°27'23	58-175	ATLANTIC O. EAST OF BRAZIL C-5C
32°06.7W	19°53.4S	1/ 1/74	13°27'33	58-176	ATLANTIC O. EAST OF BRAZIL C-7C
32°39.4W	6°31.2S	31/ 1/74	14°51'50	A4-285	ATLANTIC O., C-90
32°16.6W	6°56.9S	31/ 1/74	14°52'00	A4-286	ATLANTIC O., C-95
32°46.9W	48°16.4N	5/ 1/74	15°59'44	64-180	N. ATLANTIC O., C-98
32°43.6W	49°23.3N	12/ 1/74	17°04'20	64-346	ATLANTIC O. EAST OF NEWFOUNDLAND, C-65
32°00.7W	50°05.2N	6/ 1/74	18°10'00	58-389	ATLANTIC O. OFF NOVA SCOTIA, C-10C
32°05.7W	50°07.7N	14/ 1/74	15°37'40	70-079	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-80
31°41.6W	19°25.6S	1/ 1/74	13°27'43	58-177	ATLANTIC O. EAST OF BRAZIL C-5C
31°16.6W	18°56.8S	1/ 1/74	13°27'53	58-178	ATLANTIC O. EAST OF BRAZIL C-3C
31°08.3W	8°15.9S	31/ 1/74	14°52'30	A4-289	ATLANTIC O., C-15
31°53.8W	7°20.6S	31/ 1/74	14°52'10	A4-287	ATLANTIC O., C-50
31°31.4W	7°56.2S	31/ 1/74	14°52'20	A4-288	ATLANTIC O., C-30
31°00.4W	48°36.5N	5/ 1/74	16°00'04	64-181	N. ATLANTIC O., C-100
30°51.5W	18°28.5S	1/ 1/74	13°28'03	58-179	ATLANTIC O. EAST OF BRAZIL C-2C
30°26.8W	17°55.8S	1/ 1/74	13°28'13	58-180	ATLANTIC O. EAST OF BRAZIL C-2C
30°02.1W	17°31.3S	1/ 1/74	13°28'23	58-181	ATLANTIC O. EAST OF BRAZIL C-15
30°22.5W	5°18.9S	31/ 1/74	14°52'50	A4-291	ATLANTIC O., C-15
30°45.6W	8°45.6S	31/ 1/74	14°52'40	A4-290	ATLANTIC O., C-15
30°53.2W	49°08.4N	12/ 1/74	17°04'40	64-347	ATLANTIC O. EAST OF NEWFOUNDLAND, C-6C
30°11.3W	50°02.1N	14/ 1/74	15°38'00	70-080	N. ATLANTIC O. EAST OF NEWFOUNDLAND, C-75
29°37.7W	17°02.6S	1/ 1/74	13°28'33	58-182	ATLANTIC O. EAST OF BRAZIL C-15
29°13.0W	16°33.8S	1/ 1/74	13°28'43	58-183	ATLANTIC O. EAST OF BRAZIL C-1C
29°36.4W	10°18.1S	31/ 1/74	14°53'10	A4-293	ATLANTIC O.
29°13.3W	10°47.4S	31/ 1/74	14°53'20	A4-294	ATLANTIC O.
29°59.5W	9°48.6S	31/ 1/74	14°53'00	A4-292	ATLANTIC O.
29°41.7W	41°46.7N	27/ 1/74	12°44'34	76-155	N. ATLANTIC EAST OF NEWFOUNDLAND, C-65
29°11.7W	48°55.6N	9/ 1/74	16°00'24	64-182	N. ATLANTIC O., C-85
29°03.1W	48°51.4N	12/ 1/74	17°05'00	64-348	ATLANTIC O. EAST OF NEWFOUNDLAND, C-55
28°48.9W	16°05.1S	1/ 1/74	13°28'53	58-184	ATLANTIC O. EAST OF BRAZIL C-1C
28°24.5W	15°36.4S	1/ 1/74	13°29'03	58-185	ATLANTIC O. EAST OF BRAZIL C-1C
28°00.5W	15°07.4S	1/ 1/74	13°29'13	58-186	ATLANTIC O. EAST OF BRAZIL C-1C
28°03.1W	12°15.6S	31/ 1/74	14°53'50	A4-297	ATLANTIC O.
28°49.9W	11°16.5S	31/ 1/74	14°53'30	A4-295	ATLANTIC O.
28°26.8W	11°46.2S	31/ 1/74	14°53'40	A4-296	ATLANTIC O.
28°17.6W	49°54.3N	14/ 1/74	15°38'20	70-081	MID-NORTH ATLANTIC O., C-60
27°36.7W	14°38.4S	1/ 1/74	13°29'23	58-187	ATLANTIC O. EAST OF BRAZIL C-12
27°13.0W	14°09.6S	1/ 1/74	13°29'33	58-188	ATLANTIC O. EAST OF BRAZIL C-12
27°16.6W	13°13.6S	31/ 1/74	14°54'10	A4-299	ATLANTIC O., C-15

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
27°39.7W	12°44.5S	31/ 1/74	14°54'00	A4-298	ATLANTIC O., C-15
27°15.3W	48°32.6N	12/ 1/74	17°05'20	64-349	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
27°22.9W	49°11.5N	5/ 1/74	16°00'44	64-183	N. ATLANTIC O., C-70
26°00.0W	17°30.0S	3/12/73	14°59'06	90-211	S. ATLANTIC OCEAN, C-80
26°28.9W	14°11.5S	31/ 1/74	14°54'30	A4-301	ATLANTIC O., C-15
26°05.1W	14°41.1S	31/ 1/74	14°54'40	A4-302	ATLANTIC O., C-25
26°52.9W	13°42.7S	31/ 1/74	14°54'20	A4-300	ATLANTIC O., C-15
26°49.0W	13°40.3S	1/ 1/74	13°29'43	58-189	ATLANTIC O. EAST OF BRAZIL C-12
26°25.6W	13°11.4S	1/ 1/74	13°29'53	58-190	ATLANTIC O. EAST OF BRAZIL C-12
26°02.2W	12°42.4S	1/ 1/74	13°30'03	58-191	ATLANTIC O. EAST OF BRAZIL C-12
26°27.9W	49°44.8N	14/ 1/74	15°38'40	70-082	MID-NORTH ATLANTIC O., C-80
25°36.0W	17°00.0S	3/12/73	14°58'51	90-210	S. ATLANTIC OCEAN, C-75
25°40.7W	15°10.1S	31/ 1/74	14°54'50	A4-303	ATLANTIC O., C-40
25°16.7W	15°39.1S	31/ 1/74	14°55'00	A4-304	ATLANTIC O., C-40
25°38.8W	12°12.5S	1/ 1/74	13°30'13	58-192	ATLANTIC O. EAST OF BRAZIL C-12
25°15.4W	11°43.5S	1/ 1/74	13°30'23	58-193	ATLANTIC O. EAST OF BRAZIL C-12
25°27.6W	48°11.8N	12/ 1/74	17°05'40	64-350	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
25°30.2W	49°26.3N	5/ 1/74	16°01'04	64-184	N. ATLANTIC O., C-70
24°03.5W	17°05.8S	31/ 1/74	14°55'30	A4-307	ATLANTIC O., C-30
24°52.3W	16°08.1S	31/ 1/74	14°55'10	A4-305	ATLANTIC O., C-40
24°27.9W	16°36.5S	31/ 1/74	14°55'20	A4-306	ATLANTIC O., C-40
24°52.3W	11°14.8S	1/ 1/74	13°30'33	58-194	ATLANTIC O. EAST OF BRAZIL C-12
24°29.2W	10°45.4S	1/ 1/74	13°30'43	58-195	ATLANTIC O. EAST OF BRAZIL C-12
24°06.1W	10°15.5S	1/ 1/74	13°30'53	58-196	ATLANTIC O. EAST OF BRAZIL, C-12
24°30.2W	39°07.5N	27/ 1/74	12°45'52	76-156	N. ATLANTIC O., C-80
24°37.1W	49°33.1N	14/ 1/74	15°39'00	70-083	MID-NORTH ATLANTIC O., C-98
23°13.7W	18°03.1S	31/ 1/74	14°55'50	A4-309	ATLANTIC O.
23°38.5W	17°34.4S	31/ 1/74	14°55'40	A4-308	ATLANTIC O.
23°43.1W	9°46.8S	1/ 1/74	13°31'03	58-197	ATLANTIC O. EAST OF BRAZIL, C-15
23°20.3W	9°17.4S	1/ 1/74	13°31'13	58-198	ATLANTIC O. EAST OF BRAZIL, C-15
23°43.4W	47°49.4N	12/ 1/74	17°06'00	64-351	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
23°39.1W	49°35.6N	5/ 1/74	16°01'24	64-185	N. ATLANTIC O., C-70
22°23.6W	19°00.3S	31/ 1/74	14°56'10	A4-311	ATLANTIC O., C-20
22°48.7W	18°31.8S	31/ 1/74	14°56'00	A4-310	ATLANTIC O. 20
22°57.3W	8°47.8S	1/ 1/74	13°31'23	58-199	ATLANTIC O. EAST OF BRAZIL, C-15
22°34.9W	8°18.4S	1/ 1/74	13°31'33	58-200	ATLANTIC O. EAST OF BRAZIL, C-15
22°12.1W	7°48.5S	1/ 1/74	13°31'43	58-201	ATLANTIC O. EAST OF BRAZIL, C-15
22°44.1W	49°15.4N	14/ 1/74	15°39'20	70-084	MID-NORTH ATLANTIC O., C-95
21°07.2W	20°25.7S	31/ 1/74	14°56'40	A4-314	ATLANTIC O., C-25
21°58.3W	19°28.8S	31/ 1/74	14°56'20	A4-312	ATLANTIC O., C-15
21°32.9W	19°57.2S	31/ 1/74	14°56'30	A4-313	ATLANTIC O., C-18
21°49.4W	7°19.3S	1/ 1/74	13°31'53	58-202	ATLANTIC O. EAST OF BRAZIL, C-12
21°27.0W	6°45.8S	1/ 1/74	13°32'03	58-203	ATLANTIC O. EAST OF BRAZIL, C-12
21°04.2W	6°20.3S	1/ 1/74	13°32'13	58-204	ATLANTIC O. EAST OF BRAZIL, C-12
21°58.9W	47°25.2N	12/ 1/74	17°06'20	64-352	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
21°45.7W	49°45.7N	5/ 1/74	16°01'44	64-186	N. ATLANTIC O., C-80
20°41.1W	20°53.8S	31/ 1/74	14°56'50	A4-315	ATLANTIC O., C-25
20°41.8W	5°50.6S	1/ 1/74	13°32'23	58-205	ATLANTIC O. EAST OF BRAZIL, C-12
20°19.4W	5°21.1S	1/ 1/74	13°32'33	58-206	ATLANTIC O. EAST OF BRAZIL, C-12
20°17.4W	46°55.3N	12/ 1/74	17°06'40	64-353	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
20°54.0W	49°03.5N	14/ 1/74	15°39'40	70-085	MID-NORTH ATLANTIC O., C-98
19°57.0W	4°51.6S	1/ 1/74	13°32'43	58-207	ATLANTIC O. EAST OF BRAZIL, C-12
19°34.6W	4°21.6S	1/ 1/74	13°32'53	58-208	ATLANTIC O. EAST OF BRAZIL, C-12

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
19°12.2W	3°52.1S	1/ 1/74	13°33'03	58-209	ATLANTIC O. EAST OF BRAZIL, C-11
19°40.5W	36°09.5N	27/ 1/74	12°47'10	76-157	N. ATLANTIC O., C-30
19°05.2W	48°46.4N	14/ 1/74	15°40'00	70-086	MID-NORTH ATLANTIC O., C-100
19°51.4W	49°58.5N	5/ 1/74	16°02'04	64-187	N. ATLANTIC O., C-80
18°50.1W	3°22.4S	1/ 1/74	13°33'13	58-210	ATLANTIC O. EAST OF BRAZIL, C-12
18°27.7W	2°52.6S	1/ 1/74	13°33'23	58-211	ATLANTIC O. EQUATORIAL ZONE, C-1E
18°05.6W	2°23.1S	1/ 1/74	13°33'33	58-212	ATLANTIC O. EQUATORIAL ZONE, C-2C
18°37.2W	46°31.8N	12/ 1/74	17°07'00	64-354	ATLANTIC O. EAST OF NEWFOUNDLAND, C-50
17°43.2W	1°53.5S	1/ 1/74	13°33'43	58-213	ATLANTIC O. EQUATORIAL ZONE, C-2C
17°20.8W	1°23.5S	1/ 1/74	13°33'53	58-214	ATLANTIC O. EQUATORIAL ZONE, C-2C
17°17.5W	48°27.2N	14/ 1/74	15°40'20	70-087	MID-NORTH ATLANTIC O., C-100
17°56.0W	50°05.0N	5/ 1/74	16°02'24	64-188	N. ATLANTIC O., WEST OF FRANCE, C-55
16°58.7W	0°53.8S	1/ 1/74	13°34'03	58-215	ATLANTIC O. EQUATORIAL ZONE, C-2C
16°36.6W	0°24.3S	1/ 1/74	13°34'13	58-216	ATLANTIC O. EQUATORIAL ZONE, C-15
16°14.2W	0°05.6N	1/ 1/74	13°34'23	58-217	ATLANTIC O. EQUATORIAL ZONE, C-15
16°15.5W	33°45.3N	27/ 1/74	12°48'10	76-158	N. ATLANTIC O., C-20
16°01.3W	50°05.7N	5/ 1/74	16°02'44	64-189	N. ATLANTIC O., WEST OF FRANCE, C-55
15°51.4W	0°36.1N	1/ 1/74	13°34'34	58-218	ATLANTIC O. EQUATORIAL ZONE, C-3C
15°29.0W	1°06.1N	1/ 1/74	13°34'44	58-219	ATLANTIC O. EQUATORIAL ZONE, C-35
15°07.0W	1°35.6N	1/ 1/74	13°34'54	58-220	ATLANTIC O. EQUATORIAL ZONE, C-3C
15°31.3W	48°06.1N	14/ 1/74	15°40'40	70-088	MID-NORTH ATLANTIC O., C-98
14°44.5W	2°05.2N	1/ 1/74	13°35'04	58-221	ATLANTIC O. EQUATORIAL ZONE, C-2C
14°22.3W	2°35.0N	1/ 1/74	13°35'14	58-222	ATLANTIC O. S. OF LIBERIA C-12
14°00.0W	3°04.8N	1/ 1/74	13°35'24	58-223	ATLANTIC O. S. OF LIBERIA C-15
14°06.6W	50°12.6N	5/ 1/74	16°03'04	54-190	N. ATLANTIC O., WEST OF FRANCE, C-50
13°37.6W	3°34.6N	1/ 1/74	13°35'34	58-224	ATLANTIC O. S. OF LIBERIA C-15
13°15.2W	4°04.4N	1/ 1/74	13°35'44	58-225	ATLANTIC O. S. OF LIBERIA C-15
13°33.4W	31°39.5N	27/ 1/74	12°49'00	76-159	N. ATLANTIC O., W. OF MOROCCO, C-3C
13°01.7W	31°14.5N	27/ 1/74	12°49'10	76-160	N. ATLANTIC O., W. OF MOROCCO, C-2C
13°31.0W	31°37.1N	27/ 1/74	12°49'01	93-254	ATLANTIC O. OFF MOROCCO, C-15
13°11.3W	31°21.1N	27/ 1/74	12°49'07	93-255	ATLANTIC O. OFF MOROCCO, C-15
13°46.9W	47°43.3N	14/ 1/74	15°41'00	70-089	MID-NORTH ATLANTIC O., C-90
12°52.8W	4°34.2N	1/ 1/74	13°35'54	58-226	ATLANTIC O. S. OF LIBERIA C-1C
12°30.4W	5°04.0N	1/ 1/74	13°36'04	58-227	ATLANTIC O. S. OF LIBERIA C-1C
12°08.0W	5°33.6N	1/ 1/74	13°36'14	58-228	ATLANTIC O. S. OF LIBERIA C-15
12°30.7W	30°48.8N	27/ 1/74	12°49'20	76-161	N. ATLANTIC O., W. OF MOROCCO, C-2C
12°32.7W	30°45.5N	27/ 1/74	12°49'20	93-257	ATLANTIC O. OFF MOROCCO, C-2C
12°13.3W	30°33.3N	27/ 1/74	12°49'26	93-258	ATLANTIC O. OFF MOROCCO, C-15
12°52.2W	31°05.5N	27/ 1/74	12°49'13	93-256	ATLANTIC O. OFF MOROCCO, C-2C
12°03.7W	47°18.8N	14/ 1/74	15°41'20	70-090	MID-NORTH ATLANTIC O., C-85
12°09.6W	50°12.5N	5/ 1/74	16°03'24	54-191	N. ATLANTIC O., WEST OF FRANCE, C-80
11°45.6W	6°03.2N	1/ 1/74	13°36'24	58-229	LIBERIA, SIERRA LEONA, LAKE PISA, MOA R., C-20
11°23.2W	6°32.7N	1/ 1/74	13°36'34	58-230	LIBERIA, SIERRA LEONA, MONROVIA, MOA R., C-30
11°01.4W	7°00.5N	1/ 1/74	13°36'44	58-231	LIBERIA, SIERRA LEONA, MONROVIA, LAKE PISA, BO, C-40
11°29.4W	29°57.1N	27/ 1/74	12°49'40	76-163	N. ATLANTIC O., W. OF MOROCCO, C-10
11°59.4W	30°22.6N	27/ 1/74	12°49'30	76-162	N. ATLANTIC O., W. OF MOROCCO, C-2C
11°53.8W	30°17.0N	27/ 1/74	12°49'32	93-259	ATLANTIC O. OFF MOROCCO, C-10
10°38.0W	7°31.5N	1/ 1/74	13°36'54	58-232	LIBERIA, SIERRA LEONA, GUINEA, MOA R., C-30
10°18.2W	28°54.1N	27/ 1/74	12°50'04	93-262	MOROCCO, SPANISH SAHARA, IFNI, ANTI ATLAS MTS.
10°59.1W	29°31.0N	27/ 1/74	12°49'50	76-164	MOROCCO, SIDI INFNI
10°29.4W	29°04.8N	27/ 1/74	12°50'00	76-165	MOROCCO, SIDI INFNI GOULIMINE, OUED DRAA, TARRHICHT
10°55.5W	29°26.5N	27/ 1/74	12°49'51	93-260	MOROCCO, CAP DRAA
10°36.7W	29°10.4N	27/ 1/74	12°49'58	93-261	MOROCCO, SPANISH SAHARA, IFNI, TANTAN, ANTI ATLAS MTS.
10°22.5W	46°52.6N	14/ 1/74	15°41'40	70-091	MID-NORTH ATLANTIC O., C-60
10°14.9W	50°10.8N	5/ 1/74	16°03'44	54-192	N. ATLANTIC O., WEST OF FRANCE, C-80

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM'SS	S190 A+B KOLL-FRAME	LOCATION AND COMMENTS
9°01.1W	27°45.4N	27/ 1/74	12°50'30	76-168	MOROCCO, SPANISH SAHARA, ALGERIA, MAURITANIA, HAMADA DU DRA
9°59.8W	28°38.5N	27/ 1/74	12°50'10	76-166	MOROCCO, OUED DRAA, JEBEL QUARKZIZ, TARHJICHT
9°30.1W	28°11.5N	27/ 1/74	12°50'20	76-167	MOROCCO, SPANISH SAHARA, ALGERIA, JEBEL QUARKZIZ
8°03.1W	26°51.5N	27/ 1/74	12°50'50	76-170	ALGERIA, MAURITANIA, HAMADE EL BARKA, ERG IGLIDI
8°32.1W	27°18.4N	27/ 1/74	12°50'40	76-169	ALGERIA, MAURITANIA, HAMADA DU DRA, HAMADA EL BARKA
8°33.7W	50°07.0N	9/ 1/74	16°04'04	64-193	N. ATLANTIC O., WEST OF FRANCE, C-80
7°06.4W	25°57.3N	27/ 1/74	12°51'10	76-172	ALGERIA, MAURITANIA, MALI, ERG IGLIDI, EL EGLAB
7°25.1W	26°24.7N	27/ 1/74	12°51'00	76-171	ALGERIA, MAURITANIA, ERG IGUIDI
6°51.3W	12°21.4N	1/ 1/74	13°38'33	58-233	MALI, NIGER R., BANI R., BAOULE R., BAGDE R.
6°28.0W	12°56.2N	1/ 1/74	13°38'41	58-234	MALI, BANI R., NIGER R., SEGOU
6°04.3W	13°19.0N	1/ 1/74	13°38'51	58-235	MALI, NIGER R., BANI R., SEGOU, SAN
6°38.7W	25°30.3N	27/ 1/74	12°51'20	76-173	ALGERIA, MAURITANIA, MALI, ERG IGLIDI, EL HANK
6°11.1W	25°03.1N	27/ 1/74	12°51'30	76-174	ALGERIA, MAURITANIA, MALI, EL HANK, AZLEF
5°40.5W	13°47.8N	1/ 1/74	13°39'01	58-236	MALI, NIGER R., BANI R., SAN
5°16.7W	14°16.6N	1/ 1/74	13°39'11	58-237	MALI, NIGER R., BANI R., SAN
5°43.4W	24°35.4N	27/ 1/74	12°51'40	76-175	MALI, ALGERIA, AZLEF, ERG CHECH
5°16.0W	24°08.0N	27/ 1/74	12°51'50	76-176	MALI, ALGERIA, ERG CHECH, AZLEF
5°47.3W	24°38.4N	27/ 1/74	12°51'39	93-263	MOROCCO, SPANISH SAHARA, HA AIDER, DAALAT EL ADIMA
5°30.2W	24°21.4N	27/ 1/74	12°51'45	93-264	SPANISH SAHARA, MAURITANIA, DAALAT EL ADIMA
5°12.7W	24°03.8N	27/ 1/74	12°51'51	93-265	SPANISH SAHARA, MAURITANIA, DAALAT EL ADIMA YETTI PLAIN
4°52.9W	14°45.4N	1/ 1/74	13°39'21	58-238	MALI, LAKE DEBO, NIGER R., MOPTI
4°29.1W	15°14.2N	1/ 1/74	13°39'31	58-239	MALI, LAKE DEBO, NIGER R., MOPTI
4°05.3W	15°43.0N	1/ 1/74	13°39'41	58-240	MALI, LAC FAGUBINE, NIGER R., LAC DEBO
4°05.8W	22°54.7N	27/ 1/74	12°52'16	93-269	MAURITANIA, YETTI PLAIN C-15
4°49.0W	23°40.5N	27/ 1/74	12°52'00	76-177	MALI, ALGERIA, ERG CHECH, HAMADA SAFIA
4°22.0W	23°12.5N	27/ 1/74	12°52'10	76-178	MALI, ALGERIA, ERG CHECH, HAMADA SAFIA
4°55.6W	23°46.0N	27/ 1/74	12°51'58	93-266	SPANISH SAHARA, MAURITANIA, DAALAT EL ADIMA YETTI PLAIN
4°39.1W	23°29.2N	27/ 1/74	12°52'04	93-267	MAURITANIA, YETTI PLAIN
4°23.0W	23°12.5N	27/ 1/74	12°52'10	93-268	MAURITANIA, YETTI PLAIN C-10
3°41.5W	15°11.8N	1/ 1/74	13°39'51	58-241	MALI, LAC FAGUBINE, NIGER R., GONDAM
3°17.7W	16°40.8N	1/ 1/74	13°40'01	58-242	MALI, NIGER R., TOMBOUCTOU, LAC FAGURINE
3°02.9W	21°48.5N	27/ 1/74	12°52'40	76-181	MALI, ERG SAKKANE
3°00.2W	21°44.5N	27/ 1/74	12°52'41	93-273	MAURITANIA, ERG IGUIDI, EL HANK, C-15
3°55.3W	22°44.8N	27/ 1/74	12°52'20	76-179	MALI, HAMADA EL HARISHA, KRENACHICH
3°28.9W	22°16.8N	27/ 1/74	12°52'30	76-180	MALI, HAMADA EL HARISHA, KRENACHICH
3°49.7W	22°37.8N	27/ 1/74	12°52'22	93-270	MAURITANIA, YETTI PLAIN KARET PLAIN, C-20
3°32.9W	22°20.1N	27/ 1/74	12°52'29	93-271	MAURITANIA, KARET PLAIN, ERG IGLIDI, C-20
3°16.0W	22°02.5N	27/ 1/74	12°52'35	93-272	MAURITANIA, ERG IGUIDI, C-20
2°53.3W	17°09.5N	1/ 1/74	13°40'11	58-243	MALI, TIMBOUCTOU, NIGER R.
2°28.9W	17°38.0N	1/ 1/74	13°40'21	58-244	MALI, NIGER R., KEL ANTES
2°03.5W	18°07.1N	1/ 1/74	13°40'31	58-245	MALI, KEL ANTES, KRED D' ANECH CHAG
2°09.8W	20°52.8N	27/ 1/74	12°53'00	76-183	MALI, ERG SAKKANE
2°10.1W	20°52.2N	27/ 1/74	12°53'00	93-276	MALI, HAMADA DA SAFIA, C-10
2°36.5W	21°20.8N	27/ 1/74	12°52'50	76-182	MALI, ERG SAKKANE
2°42.8W	21°26.5N	27/ 1/74	12°52'48	93-274	MAURITANIA, MALI, ERG IGUIDI, KERE EN NAGA, C-15
2°25.6W	21°09.7N	27/ 1/74	12°52'54	93-275	MALI, ERG AL AHMAR, C-12
1°38.3W	18°35.5N	1/ 1/74	13°40'41	58-246	MALI, KRED D' ANECHCHAG, KEL ANTAS
1°13.8W	19°03.8N	1/ 1/74	13°40'51	58-247	MALI, KRED D' ANECHCHAG,
1°19.4W	19°56.1N	27/ 1/74	12°53'20	76-185	MALI, ERG SAKKANE TIMER IN MTS.
1°22.3W	19°59.2N	27/ 1/74	12°53'19	93-279	MALI, JOUBANE, KRENACHICH, C-15
1°05.2W	19°42.4N	27/ 1/74	12°53'25	93-280	MALI, JOUBANE, C-15
1°44.4W	20°24.4N	27/ 1/74	12°53'10	76-184	MALI, ERG SAKKANE
1°53.7W	20°35.0N	27/ 1/74	12°53'06	93-277	MALI, HAMADA DA SAFIA, C-15
1°37.5W	20°18.0N	27/ 1/74	12°53'12	93-278	MALI, JOUBANE, HAMADA DA SAFIA, C-15
0°33.9W	18°55.5N	27/ 1/74	12°53'40	76-187	MALI, AZADUAD SANDS, TIMER IN MTS., C-12
0°03.2W	18°30.5N	27/ 1/74	12°53'50	76-188	MALI, AZADUAD SANDS, KRED D' ANECHCHAG
0°19.4W	18°47.0N	27/ 1/74	12°53'44	93-283	MALI, ERG IN SAKKANE, C-15
0°03.2W	18°29.6N	27/ 1/74	12°53'50	93-284	MALI, TERIMIN MTS., C-15
0°48.7W	19°32.2N	1/ 1/74	13°41'01	58-248	MALI, TERRECH ESCARPMENT, ADRAR DES IFORAS
0°54.0W	19°27.4N	27/ 1/74	12°53'30	76-186	MALI, AZADUAD SANDS, TIMER IN MTS., C-10
0°52.0W	19°22.5N	27/ 1/74	12°53'31	93-281	MALI, ERG IN SAKKANE, C-15
0°40.8W	19°02.0N	27/ 1/74	12°53'38	93-282	MALI, ERG IN SAKKANE, C-15
0°23.0W	20°00.5N	1/ 1/74	13°41'11	58-249	MALI, TERRECH ESCARPMENT, ADRAR DES IFORAS

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
0°46.8E	17°33.5N	27/ 1/74	12°54'10	76-190	MALI, TILIMS VALLEY, TIGUIRIRT BASIN
0°29.3E	17°54.6N	27/ 1/74	12°54'03	93-286	MALI, VALLE DU TILMES, C-10
0°44.1E	17°36.5N	27/ 1/74	12°54'09	93-287	MALI, VALLE DU TILMES, C-10
0°58.6E	17°18.7N	27/ 1/74	12°54'15	93-288	MALI, TIGUIRIRT BASIN
0°23.4E	18°02.5N	27/ 1/74	12°54'00	76-189	MALI, KREB D'ANNECHCAG, TILIMS VALLEY
0°14.1E	18°13.1N	27/ 1/74	12°53'56	93-285	MALI, TERIMIN MTS., VALLE DU TILMES, C-11
0°02.3E	20°29.0N	1/ 1/74	13°41'21	58-250	MALI, ALGERIA, ADRAR DES IFORAS OLED TAGERACUR
0°28.0E	20°57.2N	1/ 1/74	13°41'31	58-251	ALGERIA, MALI, TANEZROUFT-N-AHNET
0°54.3E	21°25.7N	1/ 1/74	13°41'41	58-252	ALGERIA, TANEZROUFT-N-AHNET
1°36.5E	16°36.2N	27/ 1/74	12°54'30	76-192	MALI, TIGUIRIRT BASIN
1°59.9E	16°06.5N	27/ 1/74	12°54'40	76-193	MALI, TIGUIRIRT BASIN
1°13.4E	16°55.5N	27/ 1/74	12°54'21	93-289	MALI, TIGUIRIRT BASIN
1°30.6E	16°42.5N	27/ 1/74	12°54'28	93-290	MALI, TIGUIRIRT BASIN
1°44.4E	16°24.0N	27/ 1/74	12°54'34	93-291	MALI, TIGUIRIRT BASIN
1°10.8E	17°04.4N	27/ 1/74	12°54'20	76-191	MALI, TIGUIRIRT BASIN
1°20.4E	21°53.6N	1/ 1/74	13°41'51	58-253	ALGERIA, TANEZROUFT-N-AHNET
2°55.9E	14°58.5N	27/ 1/74	12°55'03	93-295	NIGER, MALI, C-30
2°24.3E	15°37.6N	27/ 1/74	12°54'50	76-194	MALI, TIGUIRIRT BASIN C-15
2°48.7E	15°08.5N	27/ 1/74	12°55'00	76-195	MALI, NIGER, WADI AZAOUAK, C-25
2°10.5E	15°53.0N	27/ 1/74	12°54'45	93-292	MALI, VALLE DE ZAGRAT, C-30
2°25.6E	15°35.0N	27/ 1/74	12°54'51	93-293	NIGER, MALI, VALLE DE ZAGRAT, C-30
2°41.1E	15°16.5N	27/ 1/74	12°54'57	93-294	NIGER, MALI, C-30
3°59.6E	13°40.3N	27/ 1/74	12°55'30	76-198	NIGER, MALI, WADI AZAOUAK
3°54.9E	13°45.3N	27/ 1/74	12°55'28	93-299	NIGER, DOGONDOUTCHI
3°20.0E	14°31.6N	27/ 1/74	12°55'10	76-196	MALI, NIGER, WADI AZAOUAK, C-15
3°47.4E	14°00.4N	27/ 1/74	12°55'20	76-197	NIGER, MALI, WADI AZAOUAK
3°16.7E	14°34.2N	27/ 1/74	12°55'10	93-296	NIGER, CALLO BOSSO, IGADIANE
3°41.8E	14°05.5N	27/ 1/74	12°55'16	93-297	NIGER, CALLO BOSSO, IGADIANE
3°44.4E	14°02.6N	27/ 1/74	12°55'22	93-298	NIGER, CALLO BOSSO
4°47.8E	12°42.6N	27/ 1/74	12°55'50	76-200	NIGER, CALLO BOSSO C-10
4°24.3E	13°12.0N	27/ 1/74	12°55'40	76-199	NIGER, CALLO BOSSO
5°34.1E	11°44.1N	27/ 1/74	12°56'10	76-202	NIGER, NIGERIA, DOGONDOUTCHI, C-50
5°56.9E	11°14.7N	27/ 1/74	12°56'20	76-203	NIGERIA, SOKOTO, C-80
5°17.3E	12°13.6N	27/ 1/74	12°56'00	76-201	NIGER, NIGERIA, DOGONDOUTCHI, C-30
6°19.6E	10°45.3N	27/ 1/74	12°56'30	76-204	NIGERIA, SOKOTO, C-90
6°42.4E	10°15.5N	27/ 1/74	12°56'40	76-205	NIGERIA, C-90
6°02.0E	27°11.4N	1/ 1/74	13°43'50	58-254	ALGERIA, IRKARENE DUNES, HAMADA DE TINGHERT
7°53.4E	8°47.5N	27/ 1/74	12°57'10	76-208	NIGERIA, BENUE R., KADUNA R., C-45
7°05.2E	9°46.5N	27/ 1/74	12°56'50	76-206	NIGERIA, C-85
7°30.6E	9°17.1N	27/ 1/74	12°57'00	76-207	NIGERIA, KADUNA R., C-70
7°02.1E	9°59.1N	27/ 1/74	12°56'46	93-300	NIGERIA, NORTHERN REGION, C-80
7°14.1E	9°44.6N	27/ 1/74	12°56'51	93-301	NIGERIA, NORTHERN REGION, C-70
7°23.7E	9°33.0N	27/ 1/74	12°56'55	93-302	NIGERIA, NORTHERN REGION, C-60
8°38.9E	7°46.3N	27/ 1/74	12°57'30	76-210	NIGERIA, BENUE R., KATSINA ALA R.
8°16.2E	8°17.5N	27/ 1/74	12°57'20	76-209	NIGERIA, BENUE R., C-30
9°24.5E	6°45.1N	27/ 1/74	12°57'50	76-212	NIGERIA CAMEROON, KATSINA ALA R.
9°47.3E	6°19.5N	27/ 1/74	12°58'00	76-213	NIGERIA CAMEROON, KATSINA ALA R.
9°01.7E	7°16.7N	27/ 1/74	12°57'40	76-211	NIGERIA, BENUE R., KATSINA ALA R.
9°32.1E	29°30.3N	1/ 1/74	13°44'42	58-255	ALGERIA, GRAND ERG ORIENTAL, HAMADA DE TINGHERT
10°00.8E	29°56.7N	1/ 1/74	13°44'52	58-256	LIBYA, TUNISIA, ALGERIA, HAMADA EL HAMRA, GRAND ERG ORIENTAL
10°29.6E	30°23.7N	1/ 1/74	13°45'02	58-257	LIBYA, TUNISIA, ALGERIA, GRAND ERG ORIENTAL, RAMLAT ABIAD
10°58.3E	30°50.4N	1/ 1/74	13°45'12	58-258	LIBYA, TUNISIA, EL HAREBA, RAMLAT ABIAD
11°27.1E	31°17.2N	1/ 1/74	13°45'22	58-259	LIBYA, TUNISIA, GEFRA, EL HAREBA, NEFUSA MTS.
11°55.8E	31°43.5N	1/ 1/74	13°45'32	58-260	LIBYA, TUNISIA, GEFRA, EL HAREBA, NEFUSA MTS.
12°24.5E	32°10.6N	1/ 1/74	13°45'42	58-261	LIBYA, TUNISIA, GEFRA, NEFUSA MTS.
12°41.9E	32°35.6N	1/ 1/74	13°45'52	58-262	LIBYA, TRIPOLI, GEFRA, AZIZIA, NEFUSA MTS.
23°31.2E	8°45.8N	3/ 1/74	10°39'03	58-263	CENTRAL AFRICAN REPUBLIC, SUDAN, BAHR EL ARAB
23°54.0E	9°19.1N	3/ 1/74	10°39'18	58-264	CENTRAL AFRICAN REPUBLIC, SUDAN, BAHR EL ARAB
24°17.4E	9°49.0N	3/ 1/74	10°39'28	58-265	SUDAN, BAHR EL ARAB
24°40.1E	10°18.5N	3/ 1/74	10°39'38	58-266	SUDAN, BAHR EL ARAB WADI IBRAH
25°03.2E	10°47.8N	3/ 1/74	10°39'48	58-267	SUDAN, BAHR EL ARAB WADI IBRAH

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
25°26.6E 25°49.6E	11°17.1N 11°46.3N	3/ 1/74 3/ 1/74	10°39'58 10°40'08	58-268 58-269	SUDAN, WADI AL KHADARI, BAHR EL ARAB SUDAN, AD DUAYN
26°13.0E 26°36.8E	12°15.6N 12°45.1N	3/ 1/74 3/ 1/74	10°40'18 10°40'28	58-270 58-271	SUDAN, AD DUAYN SUDAN, OGR
26°59.8E	13°14.0N	3/ 1/74	10°40'38	58-272	SUDAN, OGR
27°23.2E	13°42.6N	3/ 1/74	10°40'48	58-273	SUDAN, WAD BANDA
27°48.3E	14°13.1N	3/ 1/74	10°40'58	58-274	SUDAN, WAD BANDA
41°00.0E 41°06.0E	3°00.0S 3°10.0S	27/ 1/74 27/ 1/74	11°32'29 11°32'32	93-239 93-240	KENYA, FORMOSA BAY, RAS NAGOMENI, C-30 INDIAN O., C-30
46°06.8E	32°36.6N	3/ 1/74	10°47'40	58-275	IRAN, IRAQ, TIGRIS R., AL KUT
46°39.1E	33°01.7N	3/ 1/74	10°47'50	58-276	IRAC, IRAN, TIGRIS R., ZAGROS MTS., KARKEHEH R., S-10
47°12.0E 47°46.3E	33°26.4N 33°52.1N	3/ 1/74 3/ 1/74	10°48'00 10°48'11	58-277 58-278	IRAN, ZAGROS MTS., KHORRAMABAD, KARKHEH R., S-20 IRAN, ZAGROS MTS., KHORRAMABAD, S-50
48°19.9E 48°53.5E	34°16.6N 34°41.0N	3/ 1/74 3/ 1/74	10°48'21 10°48'31	58-279 58-280	IRAN, ZAGROS MTS., KERMANSHAN, S-5C IRAN, HAMADA, S-100
49°27.8E	35°05.1N	3/ 1/74	10°48'41	58-281	IRAN, TAKESTAN, SEVEH, NOWBARAN, S-5C
50°02.8E 50°38.3E	35°25.3N 35°53.5N	3/ 1/74 3/ 1/74	10°48'51 10°49'01	58-282 58-283	IRAN, KAZVIN, SEVEH, TAKESTAN, S-5C IRAN, TEHRAN, ELBKUZ MTS., KAZVIN, S-7C, C-1C
51°12.6E 51°48.2E	36°16.6N 36°39.8N	3/ 1/74 3/ 1/74	10°49'11 10°49'21	58-284 58-285	IRAN, TEHRAN, ELBRUZ MTS., S-60, C-2C IRAN, CASPIAN SEA, ELBRUZ MTS., S-30, C-6C
52°24.5E	37°03.1N	3/ 1/74	10°49'31	58-286	IRAN, CASPIAN SEA, ELBRUZ MTS., S-15, C-6C
53°00.7E 53°37.6E	37°26.0N 37°48.7N	3/ 1/74 3/ 1/74	10°49'41 10°49'51	58-287 58-288	IRAN, USSR (TURKMEN), CASPIAN SEA, C-75 IRAN, USSR (TURKMEN), CASPIAN SEA, PESKI SAYNAKSAK, C-60
54°14.9E 54°52.5E	38°11.3N 38°33.6N	3/ 1/74 3/ 1/74	10°50'01 10°50'11	58-289 58-290	USSR (TURKMEN), CASPIAN SEA, PESKI SAYNAKSAK, KUM DAG, C-50 USSR (TURKMEN), CASPIAN SEA, KUM DAG, C-70
55°30.4E	38°55.6N	3/ 1/74	10°50'21	58-291	USSR (TURKMEN) DUM DAG, KOPET MTS., C-5C
56°08.9E 56°47.8E	39°17.4N 39°35.0N	3/ 1/74 3/ 1/74	10°50'31 10°50'41	58-292 58-293	USSR (TURKMEN) KOPET MTS., C-95 USSR (TURKMEN) KARA KUM DESERT, C-95
57°27.0E	40°00.2N	3/ 1/74	10°50'51	58-294	USSR (TURKMEN), KARA KUM DESERT, C-5C
82°20.7E 82°52.3E	30°51.0N 30°24.1N	5/12/73 5/12/73	2°30'09 2°30'19	58-019 58-020	TIBET, NEPAL, HIMALAYA RANGE, MATSANG R., S-70 TIBET, NEPAL, HIMALAYA MTS., KANG-TIISO-SHAN, MATSANG R., S-70
83°23.6E 83°53.6E	29°57.6N 29°31.6N	5/12/73 5/12/73	2°30'29 2°30'39	58-021 58-022	TIBET, NEPAL, MATSANG R., HIMALAYA RANGE, DHAULAGRI PEAK, S-65 TIBET, NEPAL, HIMALAYA RANGE, ANNAPURNA PEAK, MATSANG R., S-60
84°41.4E	28°48.4N	5/12/73	2°30'55	91-181	NEPAL, TIBET, HIMALAYA MTS., PHALLAQIRI PEAK, S-50
84°23.6E 84°22.3E	29°05.2N 29°05.3N	5/12/73 5/12/73	2°30'49 2°30'49	58-023 91-180	TIBET, NEPAL, HIMALAYA RANGE, MATSANG R., ANNAPURNA PEAK, S-50 NEPAL, TIBET, HIMALAYA MTS., NIKLI, S-65
85°36.5E 85°54.9E	27°58.6N 27°42.0N	5/12/73 5/12/73	2°31'14 2°31'20	91-184 91-185	NEPAL, TIBET, HIMALAYA MTS., C-3C NEPAL, SUN KOSI RIVER, HIMALAYA MTS., S-20
85°01.2E 85°18.7E	28°31.1N 28°15.1N	5/12/73 5/12/73	2°31'02 2°31'08	91-182 91-183	NEPAL, TIBET, HIMALAYA MTS., ANNAPURNA PEAK, S-40 NEPAL, TIBET, KATMANOU, GOSANITAN PEAK, S-40
86°48.6E	26°52.0N	5/12/73	2°31'39	91-188	NEPAL, SUN KOSI RIVER, C-70
86°38.1E 86°12.7E 86°30.8E	27°02.6N 27°25.3N 27°08.7N	5/12/73 5/12/73 5/12/73	2°31'35 2°31'26 2°31'32	58-024 91-186 91-187	INDIA, NEPAL, SARI KOSI R., HIMALAYA RANGE, S-15, C-40 NEPAL, SUN KOSI RIVER, RAMECHHAP, HIMALAYA MTS., S-10 NEPAL, SUN KOSI RIVER, HIMALAYA MTS., C-2C
87°59.2E	25°44.3N	5/12/73	2°32'04	91-192	INDIA, BANGLADESH, C-100
87°06.8E 87°35.1E 87°05.8E 87°23.9E 87°41.7E	26°35.7N 26°08.7N 26°35.5N 26°18.4N 26°01.4N	5/12/73 5/12/73 5/12/73 5/12/73 5/12/73	2°31'45 2°31'55 2°31'45 2°31'51 2°31'57	58-025 58-026 91-189 91-190 91-191	NEPAL, INDIA, BANGLADESH, C-5C INDIA, BANGLADESH, C-98 NEPAL, INDIA, C-95 NEPAL, INDIA, C-100 NEPAL, INDIA, BANGLADESH, C-100
88°50.9E	24°53.4N	5/12/73	2°32'22	91-195	BANGLADESH, C-100
88°02.8E 88°16.6E 88°33.8E	25°41.7N 25°27.3N 25°10.3N	5/12/73 5/12/73 5/12/73	2°32'05 2°32'10 2°32'16	58-027 91-193 91-194	INDIA, BANGLADESH, C-100 INDIA, BANGLADESH, C-100 BANGLADESH, C-100
89°00.1E	24°44.1N	5/12/73	2°32'26	91-196	BANGLADESH COASTLINE, C-95
90°00.1E	23°43.5N	5/12/73	2°32'48	91-197	BANGLADESH COASTLINE, C-94
94°01.7E	19°23.5N	5/12/73	2°34'20	91-198	BURMA, RAMREE I., RAKAN YOMA MTS.
95°20.5E	17°54.0N	5/12/73	2°34'51	91-199	BURMA, IRRAWADDY R., HENZADA, BASSEIN R.
97°53.1E	14°53.7N	5/12/73	2°35'54	91-202	BURMA, HEINZE CHAUNG, YE

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
97°23.1E	15°29.5N	5/12/73	2°35'41	91-200	BURMA, KALEGAUK I., YE
97°37.9E	15°12.0N	5/12/73	2°35'48	91-201	BURMA, YE, KALEGAUK I.
98°52.7E	13°42.2N	5/12/73	2°36'19	58-030	BURMA, THAILAND, TAVOY, POINT, BILAU-K-TALNG RANGE
98°38.5E	13°58.5N	5/12/73	2°36'13	91-205	BURMA, THAILAND, TAVOY, BITAUK TALNG MTS.
98°55.0E	13°38.0N	5/12/73	2°36'20	91-206	BURMA, THAILAND, BITAUK TAUNG MTS.
98°05.3E	14°40.2N	5/12/73	2°35'59	58-028	BURMA, THAILAND, TAVOY, BILAU-K-TALNG RANGE
98°29.0E	14°11.2N	5/12/73	2°36'09	58-029	BURMA, THAILAND, TAVOY POINT, BILAU-K-TAUNG RANGE
98°08.6E	14°35.2N	5/12/73	2°36'00	91-203	BURMA, THAILAND, HEINZE CHAUNG, ZADI, BITAUK TAUNG MTS.
98°23.4E	14°16.8N	5/12/73	2°36'07	91-204	BURMA, THAILAND, TAVOY, BITAUK TALNG MTS.
99°40.2E	12°43.7N	5/12/73	2°36'39	58-032	BURMA, THAILAND, PRET BURI, BILAU-K-TAUNG RANGE, GREAT TANNASIRRI
99°36.6E	12°46.8N	5/12/73	2°36'38	91-209	THAILAND, PHET BURI, BAN CHA AM, C-3C
99°51.4E	12°28.7N	5/12/73	2°36'44	91-210	THAILAND, GULF OF BANGKOK, C-7C
99°16.5E	13°12.7N	5/12/73	2°36'29	58-031	BURMA, THAILAND PRET BURI, BIGHT OF BANGKOK, BILAU-K-TAUNG RANGE
99°07.2E	13°23.2N	5/12/73	2°36'25	91-207	THAILAND, BURMA, BITAUK TAUNG MTS.
99°21.7E	13°05.2N	5/12/73	2°36'31	91-208	BURMA, THAILAND, PHET BURI
100°26.7E	11°45.3N	5/12/73	2°36'59	58-034	BURMA, THAILAND, GULF OF THAILAND, C-75
100°50.1E	11°16.0N	5/12/73	2°37'09	58-035	GULF OF THAILAND, C-65
100°22.7E	11°45.4N	5/12/73	2°36'57	91-212	GULF OF SIAM, C-90
100°37.2E	11°31.3N	5/12/73	2°37'03	91-213	GULF OF SIAM, C-80
100°51.7E	11°12.7N	5/12/73	2°37'10	91-214	GULF OF SIAM, C-70
100°03.6E	12°14.5N	5/12/73	2°36'49	58-033	BURMA, THAILAND, PRAN BURI, GULF OF THAILAND, C-80
100°07.5E	12°08.2N	5/12/73	2°36'51	91-211	GULF OF SIAM, C-95
101°59.6E	9°47.2N	5/12/73	2°37'39	58-038	GULF OF THAILAND, C-3C
101°13.5E	10°46.3N	5/12/73	2°37'19	58-036	GULF OF THAILAND, C-55
101°36.5E	10°17.0N	5/12/73	2°37'29	58-037	GULF OF THAILAND, C-35
101°06.2E	10°54.2N	5/12/73	2°37'16	91-215	GULF OF SIAM, C-60
101°20.4E	10°36.3N	5/12/73	2°37'22	91-216	GULF OF SIAM, C-50
101°34.2E	10°18.6N	5/12/73	2°37'28	91-217	GULF OF SIAM, C-60
101°48.7E	10°00.0N	5/12/73	2°37'34	91-218	GULF OF SIAM, C-50
102°39.2E	0°41.1N	11/ 1/74	1°49'50	64-194	INDONESIA, SUMATRA, KUNDUR, MALACCA STRAITS, C-75
102°56.9E	1°03.4N	11/ 1/74	1°49'57	89-382	INDONESIA, MALAYSIA, STRAIT OF MALACCA, C-50
102°44.7E	8°50.0N	5/12/73	2°37'59	58-040	GULF OF THAILAND, C-4C
102°45.1E	8°48.5N	5/12/73	2°37'59	91-222	GULF OF SIAM, C-30
102°22.0E	9°18.6N	5/12/73	2°37'49	58-039	GULF OF THAILAND, C-35
102°02.6E	9°42.0N	5/12/73	2°37'40	91-219	GULF OF SIAM, C-40
102°16.7E	9°24.2N	5/12/73	2°37'47	91-220	GULF OF SIAM, C-40
102°30.6E	9°06.8N	5/12/73	2°37'53	91-221	GULF OF SIAM, C-40
103°04.1E	1°12.5N	11/ 1/74	1°50'00	64-195	INDONESIA, MALAYSIA, SINGAPORE, SINGAPORE STRAIT, SUMATRA, C-50
103°26.7E	1°43.2N	11/ 1/74	1°50'10	64-196	MALAYSIA, SINGAPORE, INDONESIA, SINGAPORE STRAIT, KLUANG, C-30
103°11.1E	1°22.5N	11/ 1/74	1°50'03	89-383	INDONESIA, MALAYSIA, SINGAPORE, SINGAPORE STRAIT OF MALACCA, C-30
103°24.6E	1°40.5N	11/ 1/74	1°50'09	89-384	MALAYSIA, SINGAPORE, SINGAPORE, JOHOREBAHRU, C-15
103°39.1E	1°55.0N	11/ 1/74	1°50'16	89-385	MALAYSIA, KOTA TINGGI, C-15
103°48.4E	2°12.5N	11/ 1/74	1°50'20	64-197	MALAYSIA, SINGAPORE, SINGAPORE I., KLUANG, SO. CHINA SEA., C-40
103°53.0E	2°18.3N	11/ 1/74	1°50'22	89-386	MALAYSIA, KOTA TINGGI, C-20
103°53.3E	7°20.2N	5/12/73	2°38'29	58-042	SOUTH CHINA SEA C-35
103°10.8E	8°16.4N	5/12/73	2°38'10	58-041	GULF OF THAILAND, C-45
104°10.8E	2°42.0N	11/ 1/74	1°50'30	64-198	MALAYSIA, S. CHINA SEA, SUNGEI, PAHANG, C-75
104°06.8E	2°36.7N	11/ 1/74	1°50'28	89-387	S. CHINA SEA, C-50
104°20.7E	2°55.3N	11/ 1/74	1°50'35	89-388	S. CHINA SEA, C-70
104°32.5E	3°11.2N	11/ 1/74	1°50'40	64-199	S. CHINA SEA, C-95
104°55.0E	3°41.0N	11/ 1/74	1°50'50	64-200	S. CHINA SEA, C-95
104°34.8E	3°14.3N	11/ 1/74	1°50'41	89-389	S. CHINA SEA, C-70
104°48.3E	3°32.1N	11/ 1/74	1°50'47	89-390	S. CHINA SEA, C-70
104°38.8E	6°20.7N	5/12/73	2°38'49	58-043	SOUTH CHINA SEA C-60
105°46.0E	4°52.0N	5/12/73	2°39'19	58-045	SOUTH CHINA SEA C-5C
105°47.3E	4°49.0N	5/12/73	2°39'19	91-225	S. CHINA SEA, C-50
105°23.6E	5°21.5N	5/12/73	2°39'09	58-044	SOUTH CHINA SEA C-80
105°18.0E	5°27.6N	5/12/73	2°39'07	91-223	S. CHINA SEA, C-95
105°33.2E	5°07.8N	5/12/73	2°39'13	91-224	S. CHINA SEA, C-80
106°30.8E	3°52.3N	5/12/73	2°39'39	58-047	SOUTH CHINA SEA C-35
106°53.2E	3°22.7N	5/12/73	2°39'49	58-048	SOUTH CHINA SEA C-40
106°28.5E	3°54.2N	5/12/73	2°39'38	91-228	S. CHINA SEA, C-40
106°43.0E	3°35.0N	5/12/73	2°39'44	91-229	S. CHINA SEA, C-40
106°57.2E	3°16.4N	5/12/73	2°39'51	91-230	S. CHINA SEA, C-50
106°08.8E	4°22.0N	5/12/73	2°39'29	58-046	SOUTH CHINA SEA C-40
106°01.2E	4°30.7N	5/12/73	2°39'26	91-226	S. CHINA SEA, C-30
106°15.0E	4°12.3N	5/12/73	2°39'32	91-227	S. CHINA SEA, C-40
107°15.3E	2°53.2N	5/12/73	2°39'59	58-049	SOUTH CHINA SEA C-6C
107°37.4E	2°23.5N	5/12/73	2°40'09	58-050	SOUTH CHINA SEA C-50

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B KOLL-FRAME	LOCATION AND COMMENTS
107°11.0E	2°58.0N	9/12/73	2°39'57	91-231	S. CHINA SEA, MIDAI I., C-6C
107°24.9E	2°39.3N	9/12/73	2°40'03	91-232	S. CHINA SEA, MIDAI I., C-70
107°38.7E	2°20.5N	9/12/73	2°40'09	91-233	S. CHINA SEA, C-80
107°52.9E	2°02.1N	9/12/73	2°40'16	91-234	S. CHINA SEA, C-70
108°44.3E	0°54.2N	9/12/73	2°40'39	58-053	INDONESIA (BORNEO) PAMANGKAT, SUMBAS R., C-6C
108°48.6E	0°47.4N	9/12/73	2°40'41	91-238	INDONESIA (BORNEO), PAMANGKAT, SINGKAWANG, C-75
108°00.2E	1°53.5N	9/12/73	2°40'19	58-051	SOUTH CHINA SEA C-4C
108°22.2E	1°23.5N	9/12/73	2°40'29	58-052	INDONESIA (BORNEO) PAMANGKAT, SINGKAWANG, SUMBAS R., C-40
108°06.4E	1°43.6N	9/12/73	2°40'22	91-235	S. CHINA SEA, C-50
108°21.2E	1°24.0N	9/12/73	2°40'29	91-236	INDONESIA (BORNEO), SUMBAS RIVER MOUTH, C-6C
108°34.8E	1°05.9N	9/12/73	2°40'35	91-237	INDONESIA (BORNEO), PAMANGKAT, SINGKAWANG, C-60
109°29.1E	0°05.4S	9/12/73	2°40'59	58-055	INDONESIA (BORNEO) PONTIANAK, KAPLAS R., C-75
109°51.2E	0°35.3S	9/12/73	2°41'09	58-056	INDONESIA (BORNEO) TELUK SUKADANA, C-70
109°30.5E	0°08.3S	9/12/73	2°41'00	91-241	INDONESIA (BORNEO), PONTIANAK, C-6C
109°06.4E	0°24.5N	9/12/73	2°40'49	58-054	INDONESIA (BORNEO) SINGKAWANG, C-6C
109°02.4E	0°29.0N	9/12/73	2°40'47	91-239	INDONESIA (BORNEO), MAMPAWAH, C-7E
109°16.3E	0°10.4N	9/12/73	2°40'53	91-240	INDONESIA (BORNEO), MAMPAWAH, C-6E
111°58.4E	2°55.3N	14/12/73	23°58'00	91-252	MALAYSIA (BORNEO), BATANG RAJANG, SIRU, C-74
111°16.6E	3°52.2N	14/12/73	23°57'41	58-067	S. CHINA SEA., C-80
111°39.0E	3°22.5N	14/12/73	23°57'51	58-068	MALAYSIA BRIT I., C-80
111°30.8E	3°32.6N	14/12/73	23°57'47	91-250	MALAYSIA (BORNEO), COAST, C-5C
111°44.6E	3°13.8N	14/12/73	23°57'54	91-251	MALAYSIA (BORNEO), COAST AT MOKAH, C-85
112°45.9E	1°53.4N	14/12/73	23°58'21	58-071	MALAYSIA INDONESIA (BORNEO), SUNGAI KAPUAS R., C-70
112°40.3E	1°59.5N	14/12/73	23°58'19	91-255	MALAYSIA (BORNEO), BATANG RAJANG, C-55
112°54.1E	1°41.0N	14/12/73	23°58'25	91-256	MALAYSIA INDONESIA (BORNEO), UPPER KAPLAS MTS., C-75
112°01.4E	2°52.5N	14/12/73	23°58'01	58-069	MALAYSIA BRIT I., BATANG RAJANG R., C-80
112°23.5E	2°23.0N	14/12/73	23°58'11	58-070	MALAYSIA INDONESIA (BORNEO), BATANG RAJANG R., C-70
112°12.6E	2°36.5N	14/12/73	23°58'06	91-253	MALAYSIA (BORNEO), BATANG RAJANG, C-65
112°26.5E	2°18.1N	14/12/73	23°58'12	91-254	MALAYSIA (BORNEO), BATANG RAJANG, C-5C
113°29.7E	0°54.7N	14/12/73	23°58'41	58-073	JAVA SEA, C-70
113°51.8E	0°24.5N	14/12/73	23°58'51	58-074	JAVA SEA, C-70
113°36.0E	0°45.3N	14/12/73	23°58'43	91-259	INDONESIA (BORNEO), C-85
113°49.8E	0°26.6N	14/12/73	23°58'50	91-260	INDONESIA (BORNEO), C-8C
113°08.0E	1°23.5N	14/12/73	23°58'31	58-072	MALAYSIA INDONESIA (BORNEO), C-5C
113°08.3E	1°22.2N	14/12/73	23°58'31	91-257	MALAYSIA INDONESIA (BORNEO), UPPER KAPUAS MTS., C-80
113°21.8E	1°03.5N	14/12/73	23°58'37	91-258	MALAYSIA INDONESIA (BORNEO), UPPER KAPLAS MTS., C-85
114°50.8E	7°12.5S	9/12/73	2°43'23	58-058	INDONESIA, MADURA I., SUMENEP, KANGKANG I., C-40
114°51.5E	7°14.6S	9/12/73	2°43'23	91-244	INDONESIA, PELAU RASS, PELAU KANGKANG, BALI SEA, C-20
114°28.4E	6°43.2S	9/12/73	2°43'13	58-057	INDONESIA, MADURA I., KANGKANG I., C-40
114°23.5E	6°37.5S	9/12/73	2°43'11	91-242	INDONESIA (JAVA), PELAU RASS, PELAU SAPUDI, C-15
114°37.6E	6°55.4S	9/12/73	2°43'17	91-243	INDONESIA, PELAU RASS, PELAU SAPUDI, PELAU KANGKANG, C-15
114°58.7E	1°04.2S	14/12/73	23°59'21	58-077	JAVA SEA, C-40
114°59.4E	1°06.3S	14/12/73	23°59'21	91-265	INDONESIA (BORNEO), SUNGAI BARITO R., C-6C
114°14.2E	0°05.0S	14/12/73	23°59'01	58-075	JAVA SEA, C-65
114°36.6E	0°36.1S	14/12/73	23°59'11	58-076	JAVA SEA, C-40
114°17.5E	0°10.2S	14/12/73	23°59'02	91-262	INDONESIA (BORNEO), C-7C
114°31.7E	0°29.4S	14/12/73	23°59'09	91-263	INDONESIA (BORNEO), C-6C
114°45.5E	0°47.5S	14/12/73	23°59'15	91-264	INDONESIA (BORNEO), C-4C
114°03.3E	0°08.4N	14/12/73	23°58'56	91-261	INDONESIA (BORNEO), C-75
115°36.0E	8°11.5S	9/12/73	2°43'43	58-060	INDONESIA, BALI I., LOMBOK I., C-6C
115°59.0E	8°41.2S	9/12/73	2°43'53	58-061	INDONESIA, BALI I., LOMBOK I., SUMBAWA I., C-70
115°34.0E	8°10.0S	9/12/73	2°43'42	91-247	INDONESIA, BALI I., PENIDA I., C-7C
115°48.5E	8°28.6S	9/12/73	2°43'48	91-248	INDONESIA, LOMBOK I., C-80
115°13.6E	7°42.0S	9/12/73	2°43'33	58-059	INDONESIA, KANGKANG I., BALI I., C-5C
115°05.6E	7°33.1S	9/12/73	2°43'30	91-245	INDONESIA, BALI I., C-3C
115°20.1E	7°51.6S	9/12/73	2°43'36	91-246	INDONESIA, BALI I., SUMBAWA I., C-6C
115°43.2E	2°03.6S	14/12/73	23°59'41	58-079	JAVA SEA, C-60
115°40.9E	2°01.5S	14/12/73	23°59'40	91-268	INDONESIA (BORNEO), SUNGAI BARITO R., C-8C
115°54.4E	2°20.0S	14/12/73	23°59'46	91-269	INDONESIA (BORNEO), GUNUNG BESAR MTS., SUNGAI BARITO R., C-35
115°21.1E	1°34.0S	14/12/73	23°59'31	58-078	JAVA SEA C-70
115°13.2E	1°24.6S	14/12/73	23°59'27	91-266	INDONESIA (BORNEO), SUNGAI BARITO R., C-6C
115°26.7E	1°42.5S	14/12/73	23°59'33	91-267	INDONESIA (BORNEO), C-8C
116°21.8E	9°10.7S	9/12/73	2°44'03	58-062	INDONESIA, LOMBOK I., SUMBAWA I., C-50
116°44.5E	9°39.8S	9/12/73	2°44'13	58-063	INDONESIA, SUMBAWA I., C-20
116°03.0E	8°47.6S	9/12/73	2°43'55	91-249	INDONESIA, LOMBOK I., C-90
116°28.0E	3°03.6S	15/12/73	0°00'01	58-081	JAVA SEA, C-20
116°50.4E	3°33.5S	15/12/73	0°00'11	58-082	JAVA SEA, C-25
116°36.6E	3°16.0S	15/12/73	0°00'05	91-272	INDONESIA (BORNEO), PELAU LAUT, PELAU SERUKU, C-10
116°50.1E	3°34.1S	15/12/73	0°00'11	91-273	INDONESIA (BORNEO), PELAU LAUT, C-35
116°05.6E	2°33.7S	14/12/73	23°59'51	58-080	JAVA SEA, C-30

LONGITUDE DD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
116°08.3E	2°38.4S	14/12/73	23°59'52	91-270	INDONESIA (BORNEO), TELUK ILUMPENG, C-10
116°22.1E	2°56.5S	14/12/73	23°59'58	91-271	INDONESIA (BORNEO), PELAU LAUT, PELAU SEBUKU, C-10
117°30.7E	10°36.5S	5/12/73	2°44'33	58-064	INDIAN O., C-20
118°16.8E	11°37.2S	5/12/73	2°44'53	58-065	INDIAN O., C-25
118°47.1E	6°07.7S	15/12/73	0°01'03	58-083	PELAU SABALANA, PELAU LONGJOITANG, C-35
119°03.6E	12°35.5S	5/12/73	2°45'13	58-066	INDIAN O., C-60
119°31.9E	7°06.7S	15/12/73	0°01'23	58-084	PELAU SABALANA, C-20
119°11.5E	6°41.5S	15/12/73	0°01'14	91-274	INDONESIA KAPULAUAN SABALANA IS., C-35
120°17.8E	8°06.2S	15/12/73	0°01'43	58-085	INDONESIA, FLORES I., C-20
121°48.7E	10°03.7S	15/12/73	0°02'23	58-087	INDONESIA, SAWU I., C-30
121°02.9E	9°05.1S	15/12/73	0°02'03	58-086	INDONESIA, FLORES I., C-20
121°15.4E	9°21.5S	15/12/73	0°02'08	91-275	INDONESIA FLORES I., C-10
122°35.2E	11°02.7S	15/12/73	0°02'43	58-088	INDONESIA, ROTI I., C-30
123°21.7E	12°01.1S	15/12/73	0°03'03	58-089	ASHMORE I., CARTIER I., HIBERNIA REEF, C-20
123°30.6E	12°13.5S	15/12/73	0°03'07	91-276	INDONESIA, SAWU I.
127°54.9E	29°44.5N	11/ 1/74	2°00'00	64-201	E. CHINA SEA, C-58
128°25.2E	30°10.5N	11/ 1/74	2°00'10	64-202	E. CHINA SEA, C-98
128°55.9E	30°36.6N	11/ 1/74	2°00'20	64-203	E. CHINA SEA, C-98
128°40.7E	30°22.8N	11/ 1/74	2°00'15	89-391	E. CHINA SEA, C-95
129°22.2E	30°57.6N	11/ 1/74	2°00'28	89-392	E. CHINA SEA, C-95
129°26.8E	31°02.3N	11/ 1/74	2°00'30	64-204	JAPAN, KYUSHU, OSUMI-GUNTO, C-85
129°57.8E	31°27.5N	11/ 1/74	2°00'40	64-205	JAPAN, KYUSHU, KAGOSHIMA, C-70
130°29.5E	31°53.3N	11/ 1/74	2°00'50	64-206	JAPAN, KYUSHU, KUMAMOTO, MIYAZAKI, C-30
130°04.4E	31°32.2N	11/ 1/74	2°00'42	89-393	JAPAN, KYUSHU, KAGOSHIMA, VOLCANO IN ERUPTION, C-45
130°47.6E	32°06.6N	11/ 1/74	2°00'55	89-394	JAPAN, KYUSHU, TAKANABE, MIYAZAKI, HITOYOSHI
131°56.0E	21°31.0S	15/12/73	0°06'21	58-090	AUSTRALIA (N. TERR.), CHILLA WELL, C-30
131°03.7E	32°20.0N	11/ 1/74	2°01'00	64-207	JAPAN, KYUSHU, KUMAMOTO, SHIMABARA, C-30
131°36.4E	32°45.7N	11/ 1/74	2°01'10	64-208	JAPAN, KYUSHU, HYUGA NADA, MIMITSU, C-50
131°33.4E	32°42.2N	11/ 1/74	2°01'09	89-395	JAPAN, KYUSHU, SAKI, OITA, BEPPU, NOBEOKA, C-35
132°52.8E	23°01.2S	15/12/73	0°06'53	91-281	AUSTRALIA (N. TERR.), 16-MILE CREEK, HAMILTON DOWNS, C-15
132°28.8E	22°25.7S	15/12/73	0°06'41	58-092	AUSTRALIA (N. TERR.), STUART BLUFF RANGE, MT. WEDGE, C-20
132°45.6E	22°52.5S	15/12/73	0°06'51	58-093	AUSTRALIA (N. TERR.), STUART BLUFF RANGE, MT. WEDGE, C-15
132°03.7E	22°05.5S	15/12/73	0°06'35	91-278	AUSTRALIA (N. TERR.), LANDER CREEK, C-18
132°19.9E	22°26.8S	15/12/73	0°06'41	91-279	AUSTRALIA (N. TERR.), MOUNT WEDGE, LANDER CREEK, C-15
132°37.0E	22°44.6S	15/12/73	0°06'47	91-280	AUSTRALIA (N. TERR.), MOUNT WEDGE, MOUNT DENISON, C-10
132°12.0E	21°58.5S	15/12/73	0°06'31	58-091	AUSTRALIA (N. TERR.), STUART BLUFF RANGE, CHILLA WELL, C-20
132°13.6E	21°55.2S	15/12/73	0°06'29	91-277	AUSTRALIA (N. TERR.), CHILLA WELL, C-18
132°07.0E	33°05.2N	11/ 1/74	2°01'20	64-209	JAPAN, SHIKOKU, KYUSHU, BUNGO SUDDO, TAWATAHAMA, MATSOYAMA, C-50
132°40.0E	33°13.6N	11/ 1/74	2°01'30	64-210	JAPAN, SHIKOKU, HONSHU, INLAND SEA, NIHAMA, IMBARI, FUKUYAMA, C-35
132°14.9E	33°14.5N	11/ 1/74	2°01'22	89-396	JAPAN, SHIKOKU, MATSUJIMA, YAWATAHAMA, UWAJIMA, C-35
132°59.1E	33°47.6N	11/ 1/74	2°01'36	89-397	JAPAN, SHIKOKU, NIHAMA, IMBARI, MATSUJIMA, KOCHI, INLAND SEA, C-50
133°11.9E	23°20.2S	15/12/73	0°07'01	58-094	AUSTRALIA (N. TERR.), MACDONNELL RANGES, ALICE SPRINGS, C-30
133°36.3E	23°46.4S	15/12/73	0°07'11	58-095	AUSTRALIA (N. TERR.), MACDONNELL RANGES, ALICE SPRINGS, C-30
133°09.6E	23°18.7S	15/12/73	0°07'00	91-282	AUSTRALIA (N. TERR.), 16-MILE CREEK, MACDONNELL RANGES, C-20
133°11.3E	23°27.3S	15/12/73	0°07'06	91-283	AUSTRALIA (N. TERR.), ALICE SPRINGS, MACDONNELL RANGES, C-35
133°43.6E	23°53.5S	15/12/73	0°07'12	91-284	AUSTRALIA (N. TERR.), ALICE SPRINGS, MACDONNELL RANGES, C-40
133°13.1E	33°58.0N	11/ 1/74	2°01'40	64-211	JAPAN, SHIKOKU, HONSHU, NIHAMA, MATSUJIMA, KOCHI, INLAND SEA, C-60
133°46.2E	34°22.4N	11/ 1/74	2°01'50	64-212	JAPAN, SHIKOKU, HONSHU, TOKOSHIMA, INLAND SEA, OKAYAMA, C-60
133°25.1E	34°06.8N	11/ 1/74	2°01'44	89-398	JAPAN, HONSHU-SHIKOKU, TAKAMATSU, NIHAMA, FUKUYAMA, C-55
133°46.2E	34°21.5N	11/ 1/74	2°01'50	89-399	JAPAN, HONSHU-SHIKOKU, OKAYAMA, TAKAMATSU, FUKUYAMA, C-55
134°08.0E	24°15.7S	15/12/73	0°07'20	58-096	AUSTRALIA (N. TERR.), MACDONNELL RANGES, ALICE SPRINGS, C-30
134°40.0E	24°44.5S	15/12/73	0°07'31	58-097	AUSTRALIA (N. TERR.), MACDONNELL RANGES
134°04.0E	24°12.5S	15/12/73	0°07'19	91-285	AUSTRALIA (N. TERR.), ALICE SPRINGS, MACDONNELL RANGES, C-41
134°18.2E	24°27.5S	15/12/73	0°07'24	91-286	AUSTRALIA (N. TERR.), MACDONNELL RANGES, C-35
134°19.2E	34°46.7N	11/ 1/74	2°02'00	64-213	JAPAN, SHIKOKU, HONSHU, OSAKA, KOBE, TOKUSHIMA, TAKASAGO, C-65
134°06.6E	34°36.7N	11/ 1/74	2°01'56	89-400	JAPAN, HONSHU-SHIKOKU, WAKAYAMA, TOKUSHIMA, KOBE, C-65
134°28.1E	34°52.1N	11/ 1/74	2°02'02	89-401	JAPAN, HONSHU, KOBE, OSAKA, WAKAYAMA, AKASHI, C-65
134°53.8E	35°11.2N	11/ 1/74	2°02'10	64-214	JAPAN, HONSHU, OSAKA, KOBE, AKISHI, OSAKAWA, KYOTO, C-70, S-10
134°49.2E	35°06.5N	11/ 1/74	2°02'08	89-402	JAPAN, HONSHU, OSAKA, KOBE, C-90
135°28.4E	35°35.1N	11/ 1/74	2°02'20	64-215	JAPAN, HONSHU, KYOTO, BIWA-KO, C-70, S-30
135°24.4E	35°31.3N	11/ 1/74	2°02'19	89-403	JAPAN, HONSHU, BIWA-KO, C-95, S-30
136°04.3E	35°55.5N	11/ 1/74	2°02'31	64-216	JAPAN, HONSHU, GIFU, KANAZAWA, C-75, S-60

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
136°38.6E	36°22.1N	11/ 1/74	2°02'40	64-217	JAPAN, HONSHU, KANAZAWA, TOYAMA, MATSUMOTO, C-70, S-80
136°11.9E	36°03.2N	11/ 1/74	2°02'32	89-404	JAPAN, HONSHU, KANAZAWA, C-90, S-50
137°14.2E	36°45.2N	11/ 1/74	2°02'50	64-218	JAPAN, HONSHU, MATSUMOTO, TOYAMA, C-65, S-80
137°50.1E	37°08.4N	11/ 1/74	2°03'00	64-219	JAPAN, HONSHU, NAGANO, SADO I., C-60, S-80
138°26.4E	37°31.2N	11/ 1/74	2°03'10	64-220	JAPAN, HONSHU, SADO I., NIIGATA, KAMO, C-60, S-90
139°03.9E	37°54.2N	11/ 1/74	2°03'20	64-221	JAPAN, HONSHU, SADO I., NIIGATA, FLKUSHIMA, C-50, S-90
139°41.2E	38°16.6N	11/ 1/74	2°03'30	64-222	JAPAN, HONSHU, SENDAI, KUKUSHIMA, SAKATA, C-50, S-70
140°18.7E	38°38.7N	11/ 1/74	2°03'40	64-223	JAPAN, HONSHU, SENDAI, SAKATA, C-50, S-50
140°56.6E	39°00.6N	11/ 1/74	2°03'50	54-224	JAPAN, HONSHU, SENDAI, MORIOKA, KAMAISHI, C-30, S-40
141°35.9E	39°22.7N	11/ 1/74	2°04'00	64-225	JAPAN, HONSHU, MORIOKA, KAMAISHI, MIYAKO, C-15, S-30
142°15.1E	39°44.4N	11/ 1/74	2°04'10	64-226	JAPAN, HONSHU, KAMAISHI, MIYAKO, C-40, S-20
142°03.2E	39°37.0N	11/ 1/74	2°04'07	89-405	JAPAN, HONSHU, MAYAKO, KAMAISHI, C-50
142°27.6E	39°50.4N	11/ 1/74	2°04'13	89-406	JAPAN, HONSHU, C-80
142°54.6E	40°05.6N	11/ 1/74	2°04'20	64-227	N. PACIFIC O., NE OF JAPAN, C-40
142°52.3E	40°03.7N	11/ 1/74	2°04'20	89-407	PACIFIC O. NE OF JAPAN, C-50
143°34.5E	40°26.5N	11/ 1/74	2°04'30	64-228	N. PACIFIC O., NE OF JAPAN, C-35
143°17.4E	40°17.4N	11/ 1/74	2°04'26	89-408	PACIFIC O. NE OF JAPAN, C-40
143°42.8E	40°30.1N	11/ 1/74	2°04'32	89-409	PACIFIC O. NE OF JAPAN, C-40
144°15.4E	40°47.7N	11/ 1/74	2°04'41	64-229	N. PACIFIC O., NE OF JAPAN, C-40
144°08.1E	40°43.1N	11/ 1/74	2°04'38	89-410	PACIFIC O. NE OF JAPAN, C-60
144°33.2E	40°55.5N	11/ 1/74	2°04'45	89-411	PACIFIC O. NE OF JAPAN, C-70
144°55.9E	41°08.1N	11/ 1/74	2°04'51	64-230	N. PACIFIC O., NE OF JAPAN, C-50
144°58.6E	41°08.5N	11/ 1/74	2°04'51	89-412	PACIFIC O. NE OF JAPAN, C-80
145°37.1E	41°28.4N	11/ 1/74	2°05'01	64-231	N. PACIFIC O., NE OF JAPAN, C-55
145°23.6E	41°20.6N	11/ 1/74	2°04'57	89-413	PACIFIC O. NE OF JAPAN, C-80
145°49.6E	41°33.5N	11/ 1/74	2°05'03	89-414	PACIFIC O. NE OF JAPAN, C-60
146°18.6E	41°48.2N	11/ 1/74	2°05'11	64-232	N. PACIFIC O., NE OF JAPAN, C-60
146°15.7E	41°46.0N	11/ 1/74	2°05'09	89-415	PACIFIC O. NE OF JAPAN, C-80
146°42.0E	41°58.4N	11/ 1/74	2°05'16	89-416	PACIFIC O. NE OF JAPAN, C-60
147°00.5E	42°07.6N	11/ 1/74	2°05'20	64-233	N. PACIFIC O., NE OF JAPAN, C-70
147°08.7E	42°10.6N	11/ 1/74	2°05'22	89-417	PACIFIC O. NE OF JAPAN, C-85
147°35.4E	42°23.0N	11/ 1/74	2°05'28	89-418	PACIFIC O. NE OF JAPAN, C-90
148°02.5E	42°35.0N	11/ 1/74	2°05'35	89-419	PACIFIC O. NE OF JAPAN, C-95
148°29.8E	42°47.0N	11/ 1/74	2°05'41	89-420	PACIFIC O. NE OF JAPAN, C-95
148°56.2E	42°58.4N	11/ 1/74	2°05'47	89-421	PACIFIC O. NE OF JAPAN, C-90
149°23.2E	43°05.0N	11/ 1/74	2°05'53	89-422	PACIFIC O. NE OF JAPAN, C-90
149°52.2E	43°22.1N	11/ 1/74	2°06'00	89-423	PACIFIC O. NE OF JAPAN, C-90
150°17.9E	43°32.7N	11/ 1/74	2°06'06	89-424	PACIFIC O. NE OF JAPAN, C-95
150°46.6E	43°44.0N	11/ 1/74	2°06'12	89-425	PACIFIC O. NE OF JAPAN, C-95
151°14.3E	43°55.1N	11/ 1/74	2°06'18	89-426	PACIFIC O. NE OF JAPAN, C-98
151°42.3E	44°06.0N	11/ 1/74	2°06'25	89-427	PACIFIC O. NE OF JAPAN, C-98
152°12.0E	44°17.2N	11/ 1/74	2°06'31	89-428	PACIFIC O. NE OF JAPAN, C-80
152°39.6E	44°27.7N	11/ 1/74	2°06'37	89-429	PACIFIC O. NE OF JAPAN, C-50
153°08.6E	44°38.4N	11/ 1/74	2°06'43	89-430	PACIFIC O. NE OF JAPAN, C-15
153°38.0E	44°45.0N	11/ 1/74	2°06'50	89-431	PACIFIC O. NE OF JAPAN, C-20
154°07.7E	45°00.1N	11/ 1/74	2°06'56	89-432	PACIFIC O. NE OF JAPAN, C-30
154°35.3E	45°05.1N	11/ 1/74	2°07'02	89-433	PACIFIC O. NE OF JAPAN, C-40
155°04.7E	45°15.1N	11/ 1/74	2°07'08	89-434	PACIFIC O. NE OF JAPAN, C-40
155°34.3E	45°25.0N	11/ 1/74	2°07'15	89-435	PACIFIC O. NE OF JAPAN, C-30
156°05.0E	45°35.1N	11/ 1/74	2°07'21	89-436	PACIFIC O. NE OF JAPAN, C-20
156°34.6E	45°48.6N	11/ 1/74	2°07'27	89-437	PACIFIC O. NE OF JAPAN, C-20
157°05.3E	45°58.2N	11/ 1/74	2°07'33	89-438	PACIFIC O. NE OF JAPAN, C-35
157°36.6E	46°07.6N	11/ 1/74	2°07'40	89-439	PACIFIC O. NE OF JAPAN, C-60
158°06.9E	46°16.6N	11/ 1/74	2°07'46	89-440	PACIFIC O. NE OF JAPAN, C-80
158°36.6E	46°25.4N	11/ 1/74	2°07'52	89-441	PACIFIC O. NE OF JAPAN, C-90
159°08.5E	46°34.6N	11/ 1/74	2°07'59	89-442	PACIFIC O. NE OF JAPAN, C-90
159°38.5E	46°43.0N	11/ 1/74	2°08'04	89-443	PACIFIC O. NE OF JAPAN, C-80
160°00.0E	36°00.0N	11/ 1/74	0°26'47	89-380	PACIFIC O. EAST OF JAPAN, C-60
160°20.0E	36°20.0N	11/ 1/74	0°26'52	89-381	PACIFIC O. EAST OF JAPAN, C-60
160°10.5E	46°51.7N	11/ 1/74	2°08'11	89-444	PACIFIC O. NE OF JAPAN, C-80
160°41.8E	47°00.0N	11/ 1/74	2°08'17	89-445	PACIFIC O. NE OF JAPAN, C-80

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH:MM:SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
161°14.1E	47°08.4N	11/ 1/74	2°08'23	89-446	PACIFIC O. NE OF JAPAN, C-85
161°47.7E	47°16.5N	11/ 1/74	2°08'30	89-447	PACIFIC O. NE OF JAPAN, C-90
162°20.7E	47°25.8N	11/ 1/74	2°08'36	89-448	PACIFIC O. NE OF JAPAN, C-95
162°55.0E	47°40.4N	11/ 1/74	2°08'42	89-449	PACIFIC O. NE OF JAPAN, C-98
163°28.3E	47°48.8N	11/ 1/74	2°08'49	89-450	PACIFIC O. NE OF JAPAN, C-99
164°00.2E	47°54.4N	11/ 1/74	2°08'55	89-451	PACIFIC O. NE OF JAPAN, C-100
164°31.2E	47°55.2N	11/ 1/74	2°09'01	89-452	PACIFIC O. NE OF JAPAN, C-100
165°12.4E	48°11.8N	11/ 1/74	2°09'07	89-453	PACIFIC O. NE OF JAPAN, C-100
165°51.9E	48°25.4N	11/ 1/74	2°09'13	89-454	PACIFIC O. NE OF JAPAN, C-100
166°29.8E	48°34.5N	11/ 1/74	2°09'20	89-455	PACIFIC O. NE OF JAPAN, C-100
167°07.4E	48°43.4N	11/ 1/74	2°09'26	89-456	PACIFIC O. NE OF JAPAN, C-100
0°00.0W	0°00.0N	5/12/73	16°44'46	* 52-385	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	5/12/73	16°45'36	* 52-386	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	5/12/73	16°46'36	* 52-387	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	5/12/73	16°48'24	* 52-388	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	15/12/73	0°32'11	58-098	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	15/12/73	0°32'51	58-099	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	15/12/73	0°34'03	58-100	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	15/12/73	0°36'07	58-101	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	15/12/73	0°39'19	58-102	HORIZON VIEW, OVEREXPOSED
0°00.0W	0°00.0N	8/ 1/74	18°10'36	64-136	OBLIQUE, OVEREXPOSED, HORIZON
0°00.0W	0°00.0N	8/ 1/74	18°11'24	64-137	OBLIQUE, OVEREXPOSED, HORIZON
0°00.0W	0°00.0N	8/ 1/74	18°12'12	64-138	OBLIQUE, OVEREXPOSED, HORIZON
0°00.0W	0°00.0N	8/ 1/74	18°13'50	64-139	OBLIQUE, OVEREXPOSED, HORIZON
0°00.0W	0°00.0N	1/ 2/74	17°51'18	48-290	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'24	48-291	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'30	48-292	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'36	48-293	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'42	48-294	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'48	48-295	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°51'54	48-296	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'00	48-297	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'06	48-298	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'12	48-299	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'18	48-300	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'24	48-301	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'30	48-302	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'36	48-303	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'42	48-304	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'48	48-305	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°52'54	48-306	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'00	48-307	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'06	48-308	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'12	48-309	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'18	48-310	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'24	48-311	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'30	48-312	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'36	48-313	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'42	48-314	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'48	48-315	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°53'54	48-316	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'00	48-317	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'06	48-318	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'12	48-319	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'18	48-320	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'24	48-321	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'30	48-322	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'36	48-323	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'42	48-324	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'48	48-325	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°54'54	48-326	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°55'00	48-327	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°55'06	48-328	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°55'12	48-329	LUNAR CALIBRATION
0°00.0W	0°00.0N	1/ 2/74	17°55'18	48-330	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°19'37	58-001	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°19'41	58-002	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°19'45	58-003	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°20'37	58-004	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°20'41	58-005	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°20'45	58-006	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°21'37	58-007	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°21'41	58-008	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°21'45	58-009	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'07	58-010	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'11	58-011	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'15	58-012	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'47	58-013	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'51	58-014	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°41'55	58-015	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°42'27	58-016	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°42'31	58-017	LUNAR CALIBRATION
0°00.0W	0°00.0N	9/12/73	0°42'35	58-018	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°02'38	58-390	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°02'40	58-391	LUNAR CALIBRATION

LONGITUDE DDD°MM.M	LATITUDE DD°MM.M	DATE DD/MM/YY	TIME HH°MM°SS	S190 A+B ROLL-FRAME	LOCATION AND COMMENTS
0°00.0W	0°00.0N	7/ 1/74	13°02°42	58-392	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°03°30	58-393	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°03°32	58-394	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°03°34	58-395	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°04°39	58-396	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°04°41	58-397	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°04°43	58-398	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°09	58-399	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°11	58-400	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°13	58-401	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°46	58-402	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°49	58-403	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°22°50	58-404	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°23°26	58-405	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°23°28	58-406	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°23°30	58-407	LUNAR CALIBRATION
0°00.0W	0°00.0N	8/ 1/74	18°20°34	64-140	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°17°23	89-165	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°17°26	89-166	LUNAR CALIBRATION
0°00.0W	0°00.0N	8/ 1/74	15°44°26	89-244	LUNAR CALIBRATION
0°00.0W	0°00.0N	8/ 1/74	15°44°29	89-245	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°01	92-001	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°07	92-002	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°13	92-003	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°31	92-004	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°37	92-005	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°08°43	92-006	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°07	92-007	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°13	92-008	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°19	92-009	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°24	92-010	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°31	92-011	LUNAR CALIBRATION
0°00.0W	0°00.0N	7/ 1/74	13°09°37	92-012	LUNAR CALIBRATION

XI. COVERAGE MAPS

The maps in this chapter depict the areas covered by the six Earth Resources Experiment Package (EREP) remote sensors.

Maps for the multispectral photographic camera (S-190A), earth terrain camera (S-190B), multispectral scanner (S-192), and L-band radiometer (S-194) indicate the approximate ground coverage provided by each sensor during all three Skylab missions (SL-2, SL-3, and SL-4). Note, however, that scanner and radiometer data may not be processed for all areas covered. Refer to Chapter IX (page 177) for information on how to obtain data.

Maps for the infrared spectrometer (S-191) and microwave radiometer, scatterometer, and altimeter (S-193) indicate the ground track traversed when the sensors were turned on and are not intended to show ground coverage. Refer to Chapter IX (page 177) for information on how to obtain data.

The map for the multispectral scanner (S-192) lists design nominal wavelengths for each of the 13 bands. These wavelengths are not the same as those shown on page 14 and in Table 5 (page 44), which were determined from postmission data analyses.

SENSOR COVERAGE SUMMARY MAP

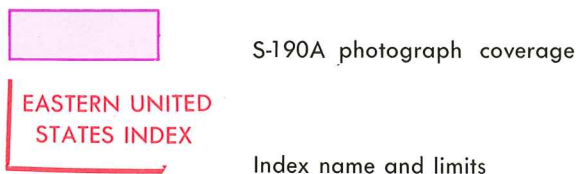
S-190A

MULTISPECTRAL PHOTOGRAPHIC CAMERA

The experiment consists of an array of six 70 mm cameras with different film/filter combinations, precisely matched and boresighted so that all six cameras will be accurately in register. Thus, all of the features seen in one photograph can be simultaneously aligned with the same features in the photograph from the other cameras. Six high-precision f/2.8 lenses have a focal length of 6 inches (0.1524 meters) providing approximately 88 nautical miles (160 kilometers) on each side.

SENSOR COVERAGE SUMMARY MAP DESCRIPTION

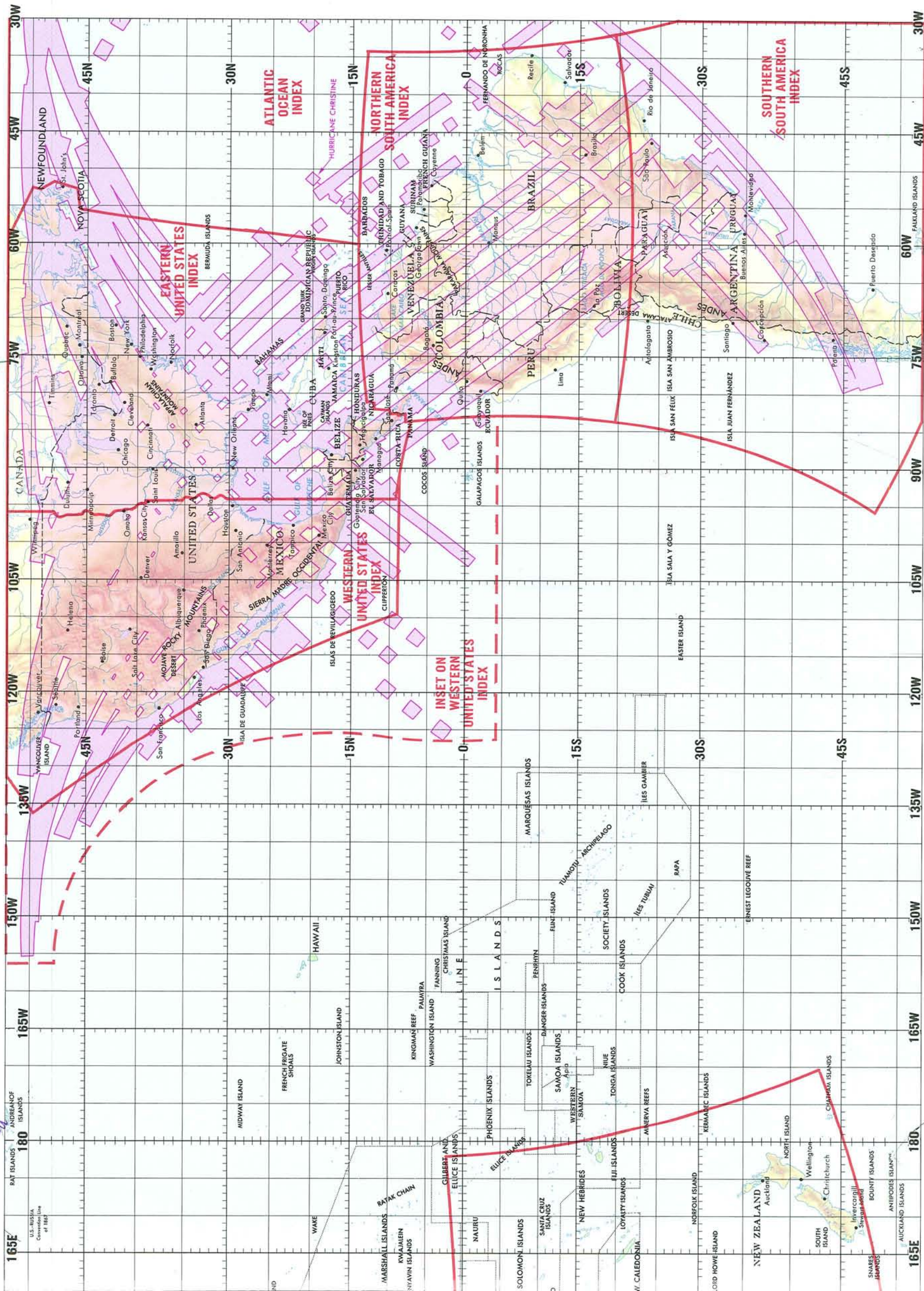
The S-190A Sensor Coverage Summary Map contains the approximate coverage limits of S-190A photographs taken during the three manned Skylab missions, and the outlines and names of eight larger scale (1:3,700,000 to 1:15,000,000) Sensor Coverage Index Maps that will be produced to index the principal point, frame number, and sufficient frame size data to establish the area of coverage for each S-190A photograph. A legend of the two types of data portrayed is as follows:



SENSOR COVERAGE INDEX MAP DESCRIPTION

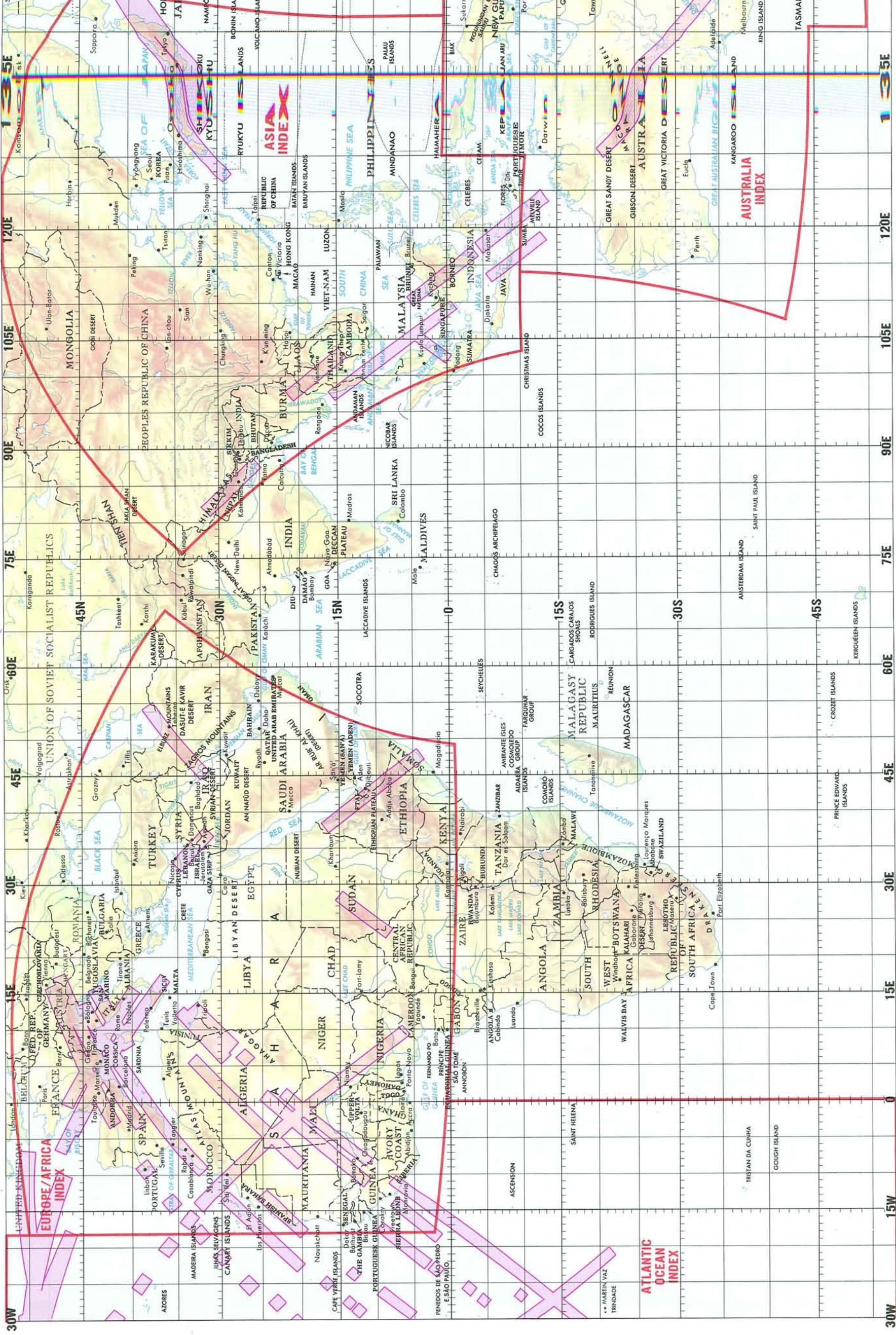
The eight S-190A Sensor Coverage Index Maps, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for each S-190A photograph. Information shown consists of the principal point and frame number for each photograph and frame coverage for every fifth or tenth photograph. The maps range from 1:3,700,000 to 1:15,000,000 scale depending upon the density of data to be plotted, and contain sufficient map data to establish the approximate geographical area contained on each photograph.

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30W 15W 0 15E 30E 45E 60E 75E 90E 105E 120E 135E

SENSOR COVERAGE SUMMARY MAP

S-190B

EARTH TERRAIN CAMERA

The Earth Terrain Camera (ETC) utilizes 5 inch (127 mm) film supplied in cassettes of approximately 450 frames each. The camera is equipped with a f/4 lens with a focal length of 18 inches (0.4572 meters), providing ground coverage of approximately 59 nautical miles (109 kilometers) on each side.

SENSOR COVERAGE SUMMARY MAP DESCRIPTION

The S-190B Sensor Coverage Summary Map contains the approximate coverage limits of S-190B photographs taken during the three manned Skylab missions, and the outlines and names of eight larger scale (1:3,700,000 to 1:15,000,000) Sensor Coverage Index Maps that will be produced to index the principal point, frame number, and sufficient frame size data to establish the area of coverage for each S-190B photograph. A legend of the two types of data portrayed is as follows:

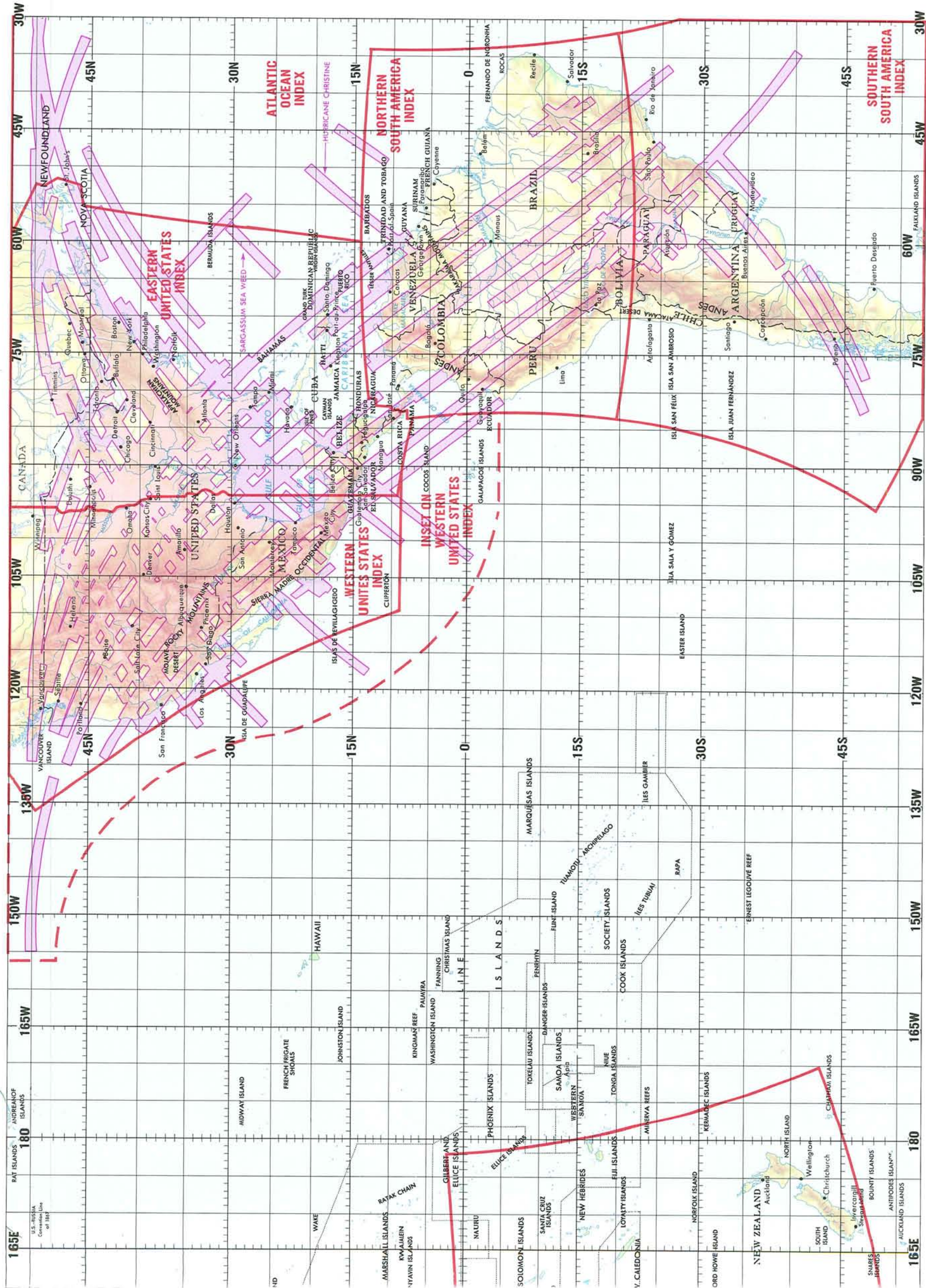


SENSOR COVERAGE INDEX MAP DESCRIPTION

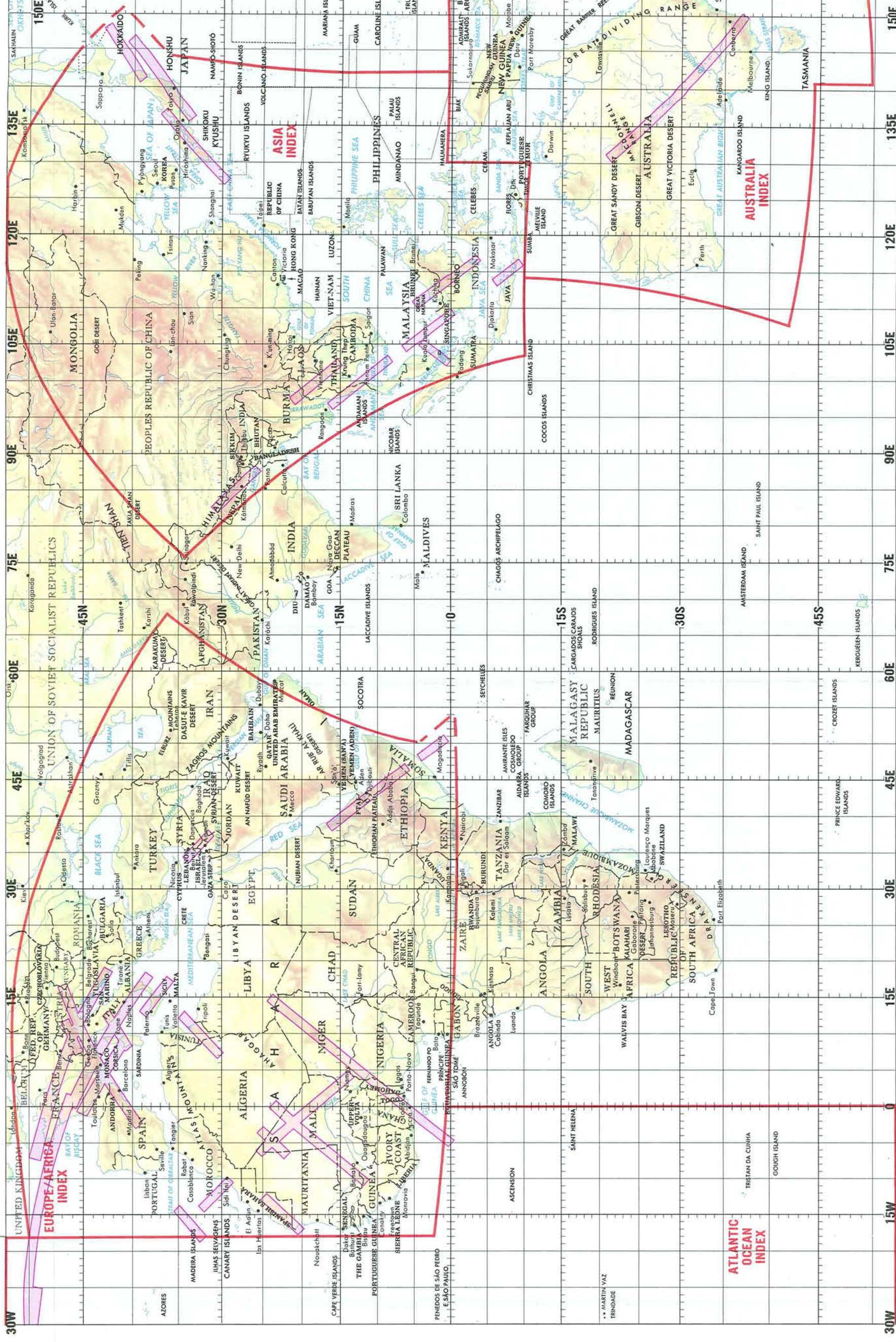
The eight S-190B Sensor Coverage Index Maps, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for each S-190B photograph. Information shown consists of the principal point and frame number for each photograph and frame coverage for every fifth or tenth photograph. The maps range from 1:3,700,000 to 1:15,000,000 scale depending upon the density of data to be plotted, and contain sufficient map data to establish the approximate geographical area contained on each photograph.

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SENSOR COVERAGE SUMMARY MAP

S-191

INFRARED SPECTROMETER

The infrared spectrometer has three major elements—a Cassegrain optical system which provides an image of the scene to the other two elements, a filter wheel spectrometer which measures the intensity of the image in various spectral bands (0.4 micrometers to 2.5 micrometers and 6.6 micrometers to 16.0 micrometers), and an optical viewfinder system which looks along the same line-of-sight as the spectrometer and allows the operating astronaut to view and photograph the ground site.

SENSOR COVERAGE SUMMARY MAP DESCRIPTION

The S-191 Sensor Coverage Summary Map contains the approximate extent of S-191 Sensor Data obtained during the three manned Skylab missions and the outline limits of one large scale map, covering the United States, that will be produced to provide a more detailed portrayal of S-191 data coverage and underlying geographical area contained on each tape. A legend of the two types of data portrayed is as follows:

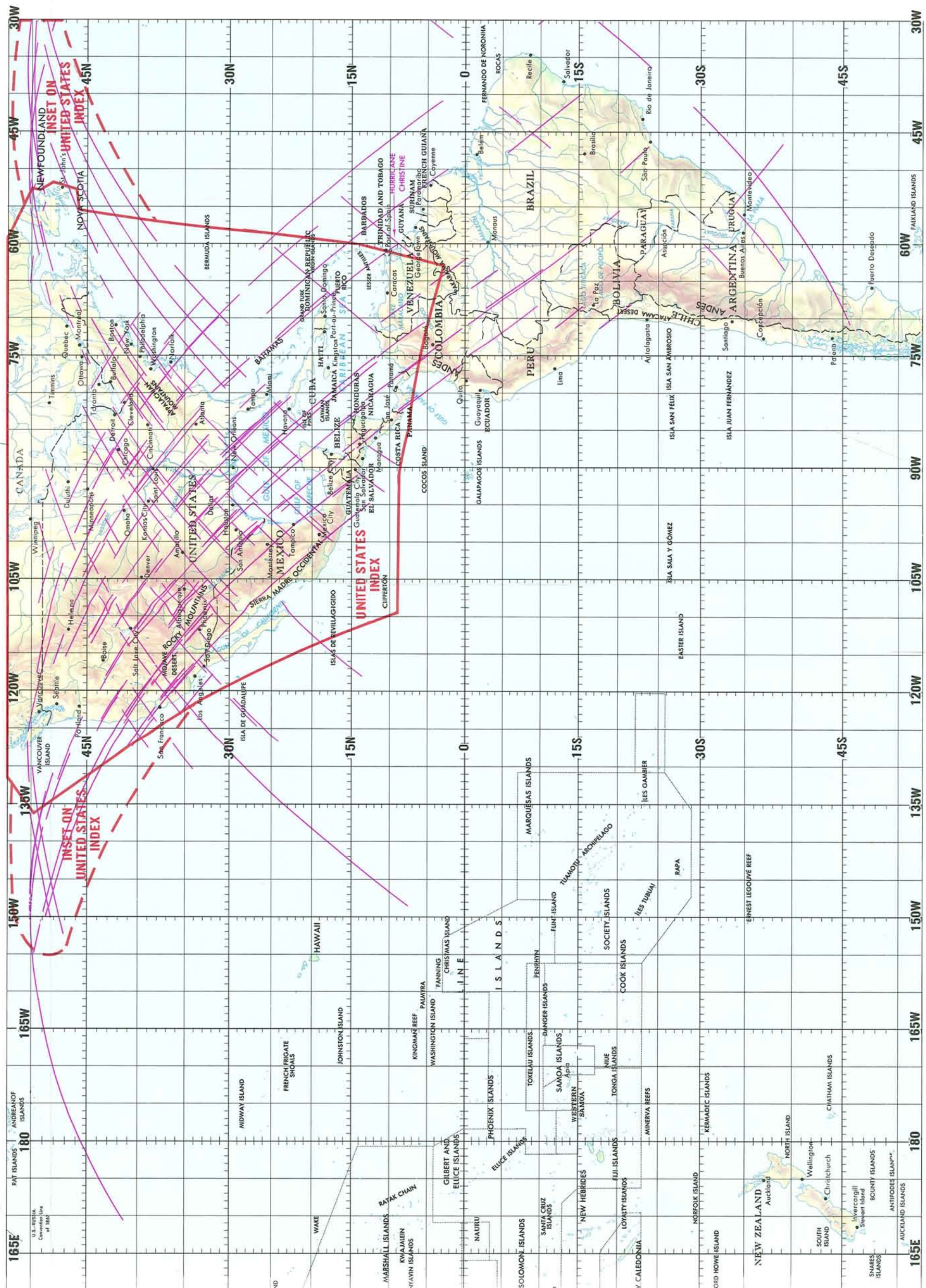


SENSOR COVERAGE INDEX MAP DESCRIPTION

The S-191 Sensor Coverage Index Map of the contiguous United States, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for each S-191 pass including data required for ordering the coverage. A special edition of the Sensor Coverage Summary Map will be produced at a future date to provide information required to order coverage outside of the contiguous United States.

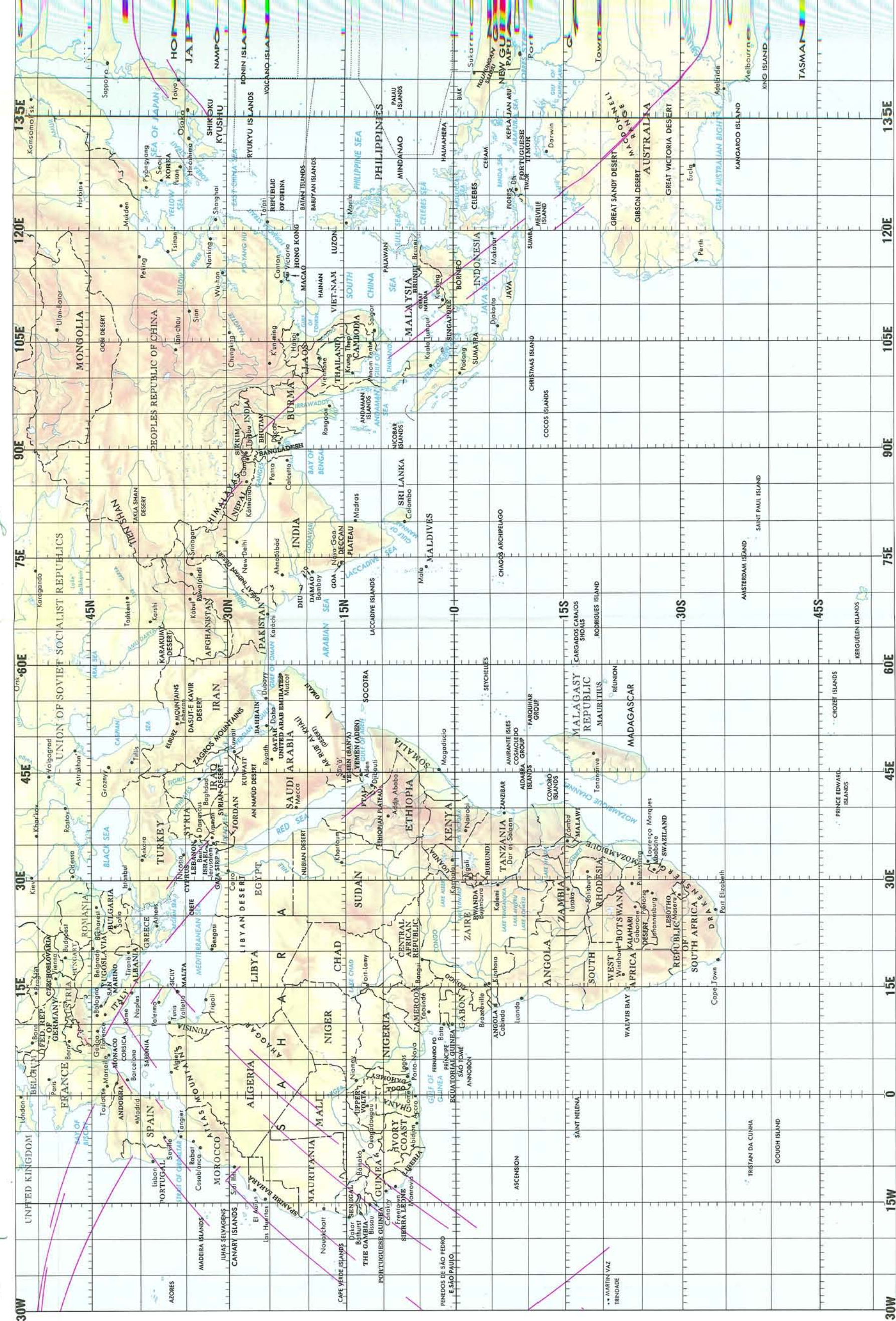
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SENSOR COVERAGE SUMMARY MAP

S-192

MULTISPECTRAL SCANNER

The S-192 optical mechanical scanner operates in 13 discrete bands from 0.4 to 12.5 micrometers as shown below:

Band	Wavelength	Coverage—Micrometers
1.....		0.41– 0.46
2.....		0.46– 0.51
3.....		0.52– 0.56
4.....		0.56– 0.61
5.....		0.62– 0.67
6.....		0.68– 0.76
7.....		0.78– 0.88
8.....		0.98– 1.08
9.....		1.09– 1.19
10.....		1.20– 1.30
11.....		1.55– 1.75
12.....		2.10– 2.35
13.....		10.20– 12.50

The multispectral scanner has a conical line scan with an instantaneous square field-of-view of 0.182 milliradians (79.25 meter square area ground coverage). Although the scan assembly rotates a full 360° , only the forward 110° portion of the scan is used for obtaining data. The radius of the scan circle is 22.6 nautical miles (41.85 kilometers), providing a swath width of 40 nautical miles (74.08 kilometers) for the 110° portion used for taking data.

SENSOR COVERAGE SUMMARY MAP DESCRIPTION

The S-192 Sensor Coverage Summary Map contains the approximate extent of S-192 Sensor Data obtained during the three manned Skylab missions and the outlines and names of five larger scale maps that will be produced to provide a more detailed portrayal of S-192 data and underlying geographical area contained on each tape. A legend of the two types of data portrayed is as follows:

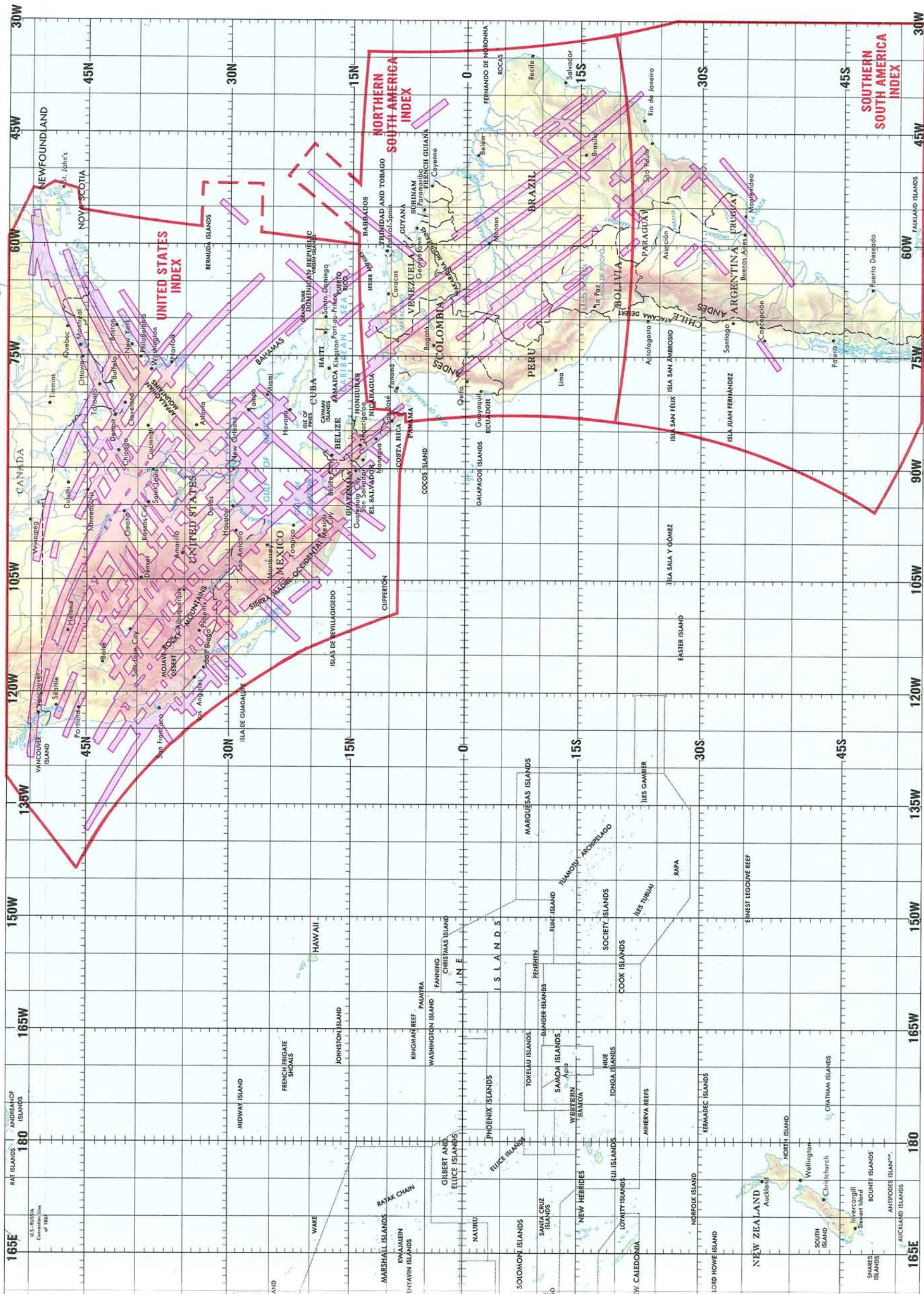
	S-192 coverage
	Index name and limits

SENSOR COVERAGE INDEX MAP DESCRIPTION

The five S-192 Sensor Coverage Index Maps, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for S-192 data and instructions for ordering the coverage. The maps range from 1:3,700,000 to 1:15,000,000 scale, depending upon the density of data to be plotted, and contain sufficient map data to establish the approximate geographical area contained on each

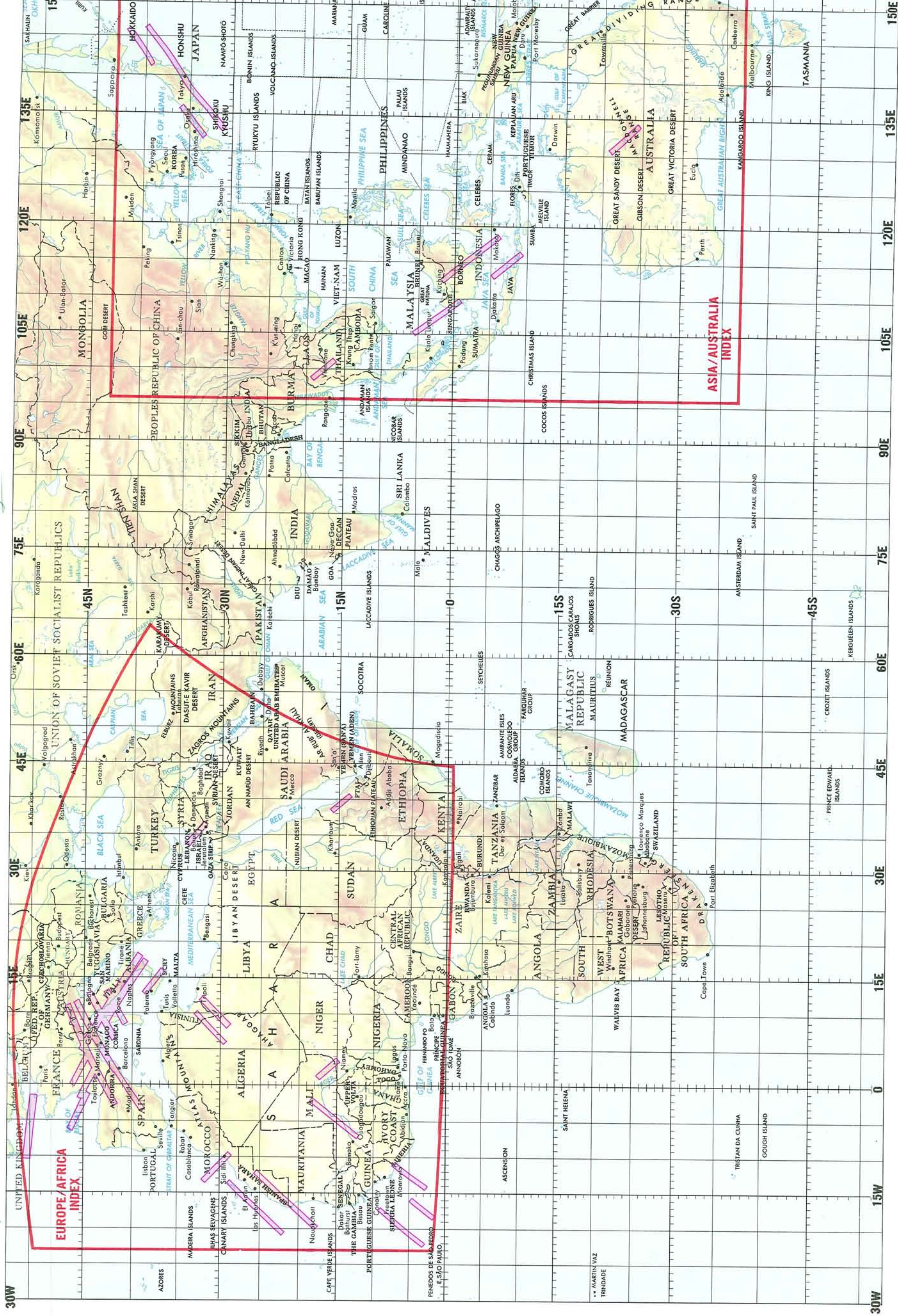
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SENSOR COVERAGE SUMMARY MAP






S-193

MICROWAVE RADIOMETER/SCATTEROMETER AND ALTIMETER

The experiment consists of an antenna and a receiver for the radiometer, scatterometer, and the altimeter. The radiometer and scatterometer may be operated together or independently, and the altimeter operates independently upon astronaut command. The frequency reference is a crystal oscillator whose frequency is multiplied and mixed such that the transmitter of both the altimeter and scatterometer generate signals centered at 13.9 GHz. The receivers for each instrument also operate at 13.9 GHz. The scatterometer and altimeter have their own transmitters and generate 8 watts and 2 kilowatts, respectively.

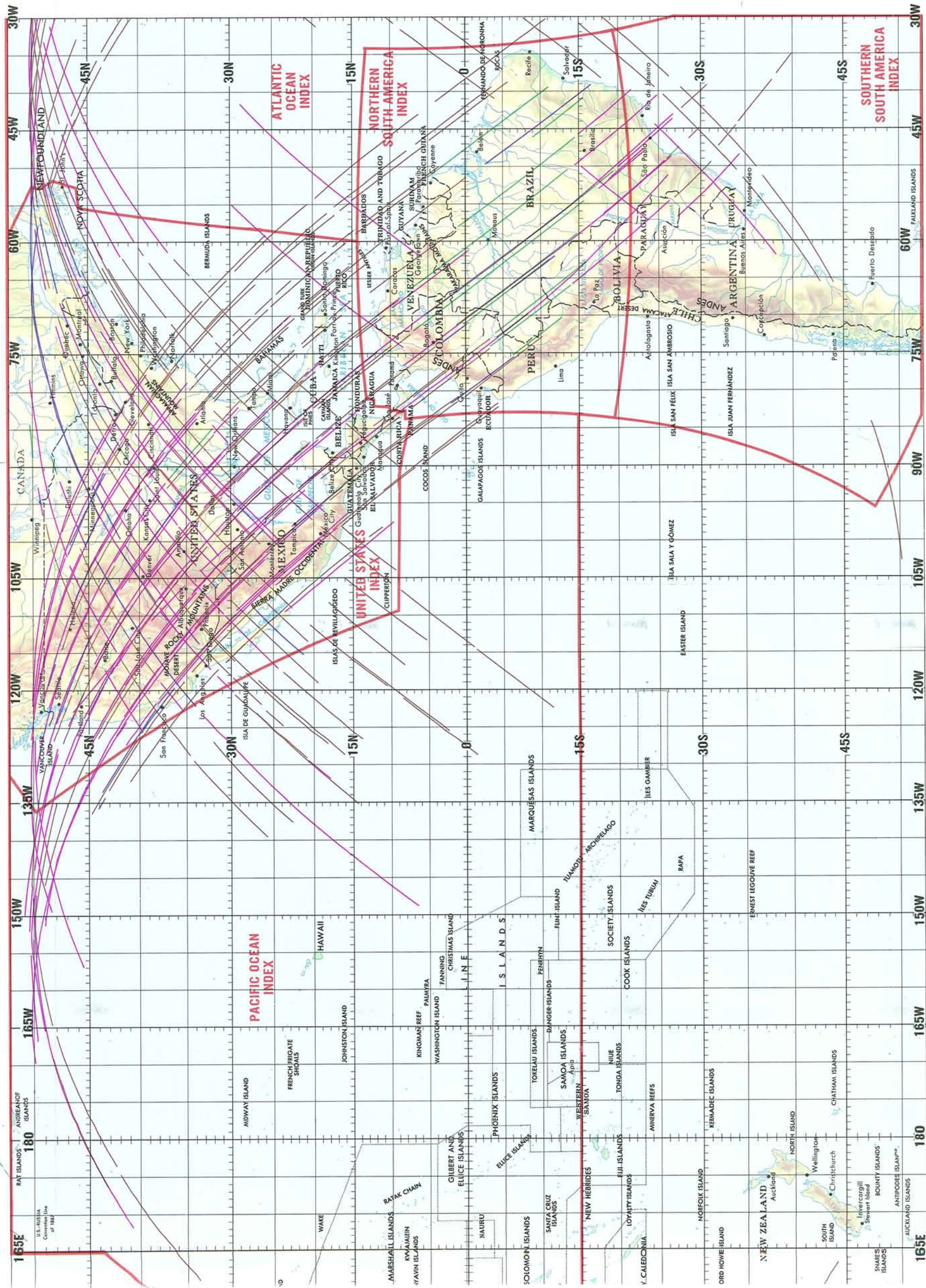
SENSOR COVERAGE SUMMARY MAP DESCRIPTION

The S-193 Sensor Coverage Summary Map contains the approximate extent of S-193 sensor data passes during the three manned Skylab missions, and the outlines and names of six larger scale (1:3,700,000 to 1:15,000,000) Sensor Coverage Index Maps that will be produced to provide a more detailed portrayal of S-193 sensor coverage. Each S-193 pass has been color coded to indicate which sensor or sensor combinations was operational at the time the sensor was on. A legend of the color coding and index maps is as follows:

	Radiometer
	Scatterometer
	Radiometer/Scatterometer
	Altimeter
	Index name and limits

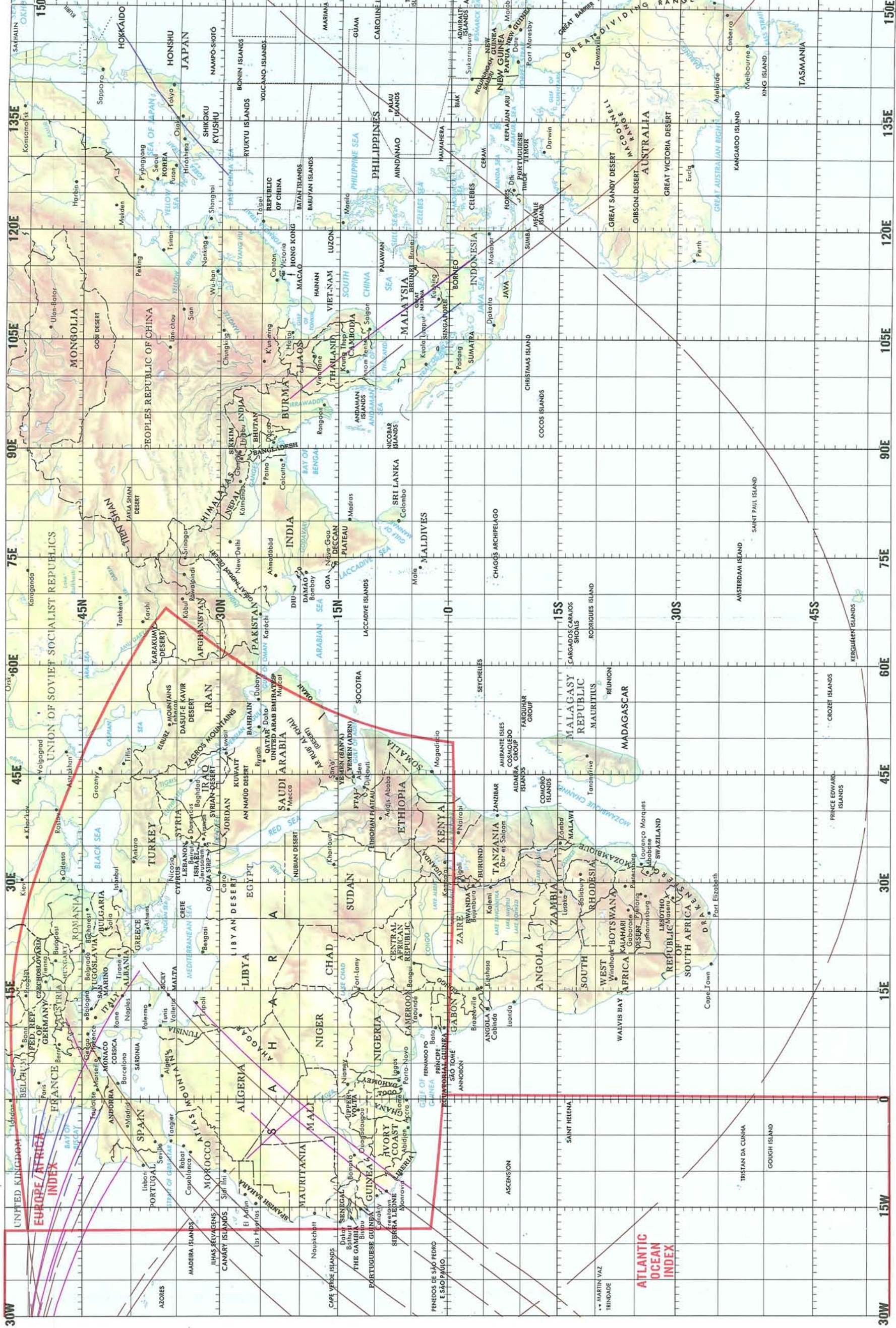
SENSOR COVERAGE INDEX MAP DESCRIPTION

The six S-193 Sensor Coverage Index Maps, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for each S-193 pass. The maps range from 1:3,700,000 to 1:15,000,000 scale, depending on the density of data to be plotted, and contain sufficient map data to establish the approximate geographical area contained on each data tape and data required for ordering the coverage. Sensor passes not included within the limits of the six maps will be contained on a future edition of the Sensor Coverage Summary Map and contain data for ordering the coverage.



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SENSOR COVERAGE SUMMARY MAP

S-194

L-BAND RADIOMETER

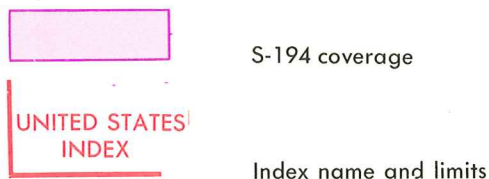
The experiment utilizes a fixed antenna that consists of an eight-element by eight-element planar array of dipole radiators spaced one-half wavelength apart.

The antenna has a 15° half-power beam width which implies that 50 percent of the energy received by the antenna will be received in the 15° solid pyramid centered about the vertical axis.

In addition, the antenna will receive over 90 percent of the energy available in the field-of-view in a 36° solid pyramid.

SENSOR COVERAGE SUMMARY MAP DESCRIPTION

The S-194 Sensor Coverage Summary Map contains the approximate extent of S-194 sensor passes taken during the three manned Skylab missions, and the outlines and names of seven larger scale 1:3,700,000 to 1:15,000,000 Sensor Coverage Index Maps that will be produced to provide a more detailed portrayal of S-194 data and establish the geographic coverage contained on each data tape. A legend of the two types of data portrayed is as follows:

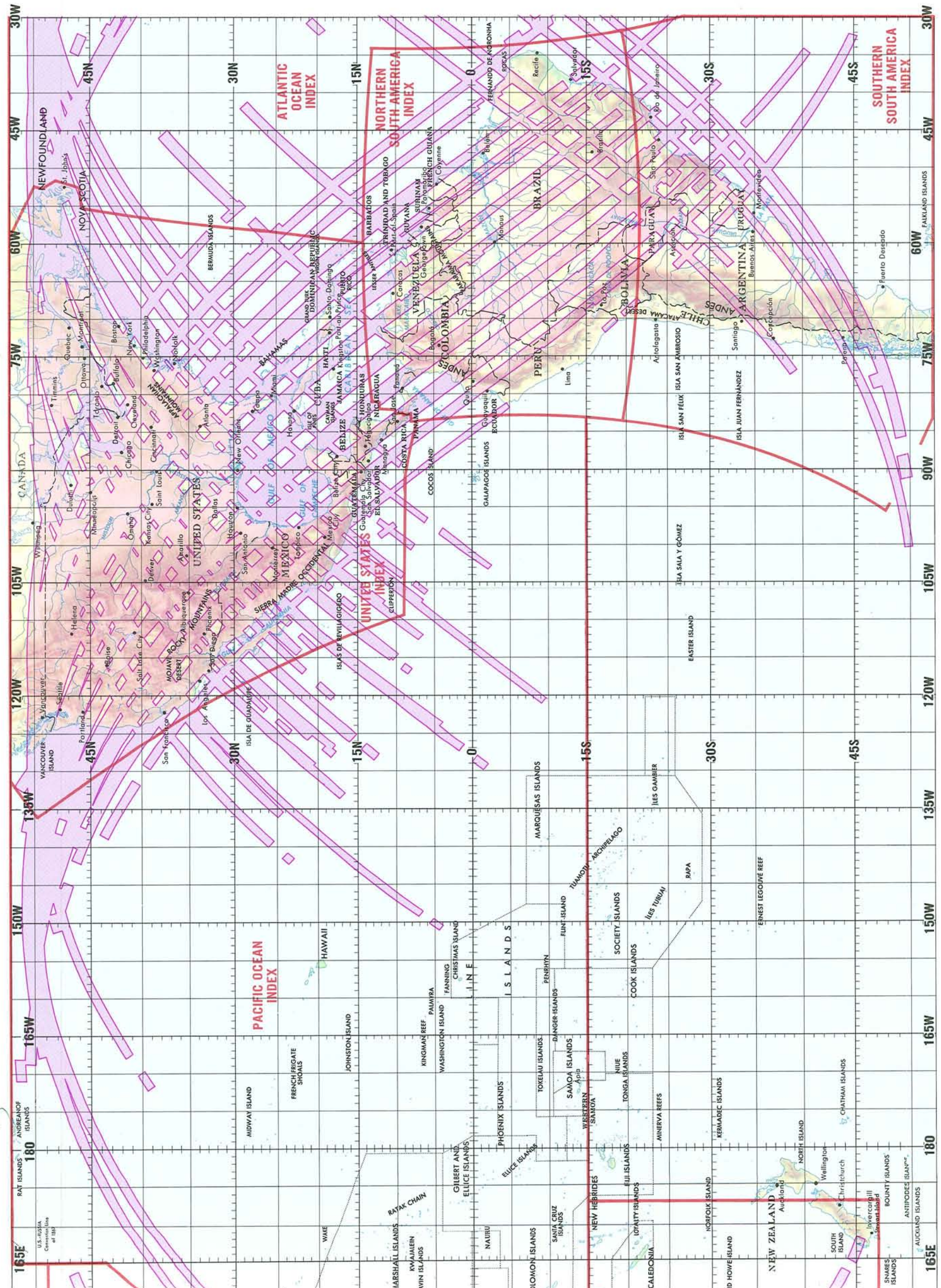


SENSOR COVERAGE INDEX MAP DESCRIPTION

The seven S-194 Sensor Coverage Index Maps, outlined and named in red on this Sensor Coverage Summary Map, will be prepared to provide detailed information for each S-194 pass. The maps range from 1:3,700,000 to 1:15,000,000 scale, depending upon the density of data to be plotted, and contain sufficient map imagery to establish the approximate geographical area contained on each data tape. S-194 coverage outside of the limits of the seven index maps will be included on a future edition of the Sensor Coverage Summary Map and include data required for ordering the coverage .

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